Designing technologies for unproductive citizens

Or how to become a design activist in public space

Author: Sergio Manuel Galán Nieto

May 2012

Thesis-project - Interaction Design Master at K3

Malmö University / Sweden
Dedicated to the memory of my father

Thanks to...

To Per Linde for so many good advices during these months.

K3 teachers and all my classmates for reshaping the way I think.

Medea & Medialab Prado for the support.

Bo Peterson and the rest of the Periphèria group in Malmö (RGRA & Do-Fi)

Víctor: each time we work together, we do amazing stuff

Nacho y Paco. My two friends.

Bea & Irene for all the references to environmental theories and reports that I didn’t know before

Pablo & Matt. Thanks for the jukebox promo!

My mother for keep fighting for a better world and never ever give up.

My sister and grandpa.

And finally thanks to Marina, my continuous support and the one who makes me enjoy my (unproductive) life.
Abstract

This is a project to design digital technologies to promote uses of public spaces challenging the social religion of productivism + consumerism. Instead I celebrate participative leisure, free time, political involvement and social relationships. Digital artefacts for what I’m calling the "unproductive city". The goal is to incorporate a different set of values where the “paid work” is not as relevant in our life as it is today.

The project is focused on life in cities and works with the integration of computing technologies into everyday urban settings and lifestyles. What it is called “urban informatics”.

Participative processes as well as user center design have guided the design. It comprehends different services and activities: A collaborative urban jukebox, exercises with locative media, participative design as a leisure activity, technological infrastructures for meetings and game design for public spaces

These activities are examples and explorations to find future challenges and different ways to design technologies for the unproductive city.
# Table of Contents

**Abstract** ...................................................................................................................... 4
**Table of Contents** ......................................................................................................... 5

**Introduction** ................................................................................................................ 7
The unproductive city........................................................................................................ 9

**Project framing** .......................................................................................................... 10
Contexts ............................................................................................................................. 11
Periphèria ......................................................................................................................... 11
Medea and the stakeholders ............................................................................................ 11
Madrid ............................................................................................................................... 11
Methodology..................................................................................................................... 12
Infrastructuring ................................................................................................................ 14
Evaluation ......................................................................................................................... 15
Social Return of Investment ............................................................................................ 16
A wicked problem............................................................................................................. 18

**Work, productivism, technology and city models** ......................................................... 20
I Productivism is a dangerous religion............................................................................. 22
Crisis I. Ecology. Reaching the limits to growth............................................................... 24
Crisis II. Values: Work & Leisure.................................................................................. 25
Lafargue: The right to by lazy & Bertrand Even Rusell. In Praise of Idleness .......... 26
Alternatives, Decroissance, antiproductivism................................................................. 27
Urbanism, cities technology ........................................................................................... 29
Open city Vs Closed city.................................................................................................. 29
IT and cities: tales of the smart cities............................................................................. 31

**Criticizing Urban Informatics** .................................................................................... 34
Serendipitor ....................................................................................................................... 35
SeeClickFix ......................................................................................................................... 37
Citizen science .................................................................................................................. 39
TexTales and SMSlingshot .............................................................................................. 40
Street lab in Neuköln. Berlin ........................................................................................... 41

**The Activities 1: Malmö** ............................................................................................ 43
Exploring Rosengård........................................................................................................ 45
A walk through Rosengård ............................................................................................. 46
Casual talks....................................................................................................................... 47
Periphèria, Malmö & “Unproductive cities” .................................................................. 47
Periphèria Workshop I .................................................................................................... 48
Results................................................................................................................................ 48
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Periphèria Workshop II</td>
<td>50</td>
</tr>
<tr>
<td>The hidden lives of Rosengård</td>
<td>50</td>
</tr>
<tr>
<td>Planning the workshop</td>
<td>51</td>
</tr>
<tr>
<td>Results</td>
<td>52</td>
</tr>
<tr>
<td>Reflection</td>
<td>52</td>
</tr>
<tr>
<td>Periphèria Workshop III</td>
<td>53</td>
</tr>
<tr>
<td>Some thoughts about my work with RGRA within Periphèria</td>
<td>56</td>
</tr>
<tr>
<td>Product 1: The square Boombox</td>
<td>57</td>
</tr>
<tr>
<td>Vision of the product</td>
<td>57</td>
</tr>
<tr>
<td>Prototype I: Webapps for casual interaction</td>
<td>58</td>
</tr>
<tr>
<td>Prototype: Hardware</td>
<td>60</td>
</tr>
<tr>
<td>On Workshops &amp; High fidelity prototypes</td>
<td>61</td>
</tr>
<tr>
<td>JukeBox at The skate park</td>
<td>61</td>
</tr>
<tr>
<td>Conclusion</td>
<td>64</td>
</tr>
<tr>
<td><strong>THE ACTIVITIES 2: MADRID</strong></td>
<td>66</td>
</tr>
<tr>
<td>Workshop about public games and urban screens</td>
<td>67</td>
</tr>
<tr>
<td>CityFireflies</td>
<td>67</td>
</tr>
<tr>
<td>Workshop design</td>
<td>69</td>
</tr>
<tr>
<td>Results and reflections</td>
<td>70</td>
</tr>
<tr>
<td>Technologies for public assemblies</td>
<td>73</td>
</tr>
<tr>
<td>Assemblies</td>
<td>73</td>
</tr>
<tr>
<td>15fM</td>
<td>74</td>
</tr>
<tr>
<td>The design</td>
<td>74</td>
</tr>
<tr>
<td>Feedback I</td>
<td>76</td>
</tr>
<tr>
<td>Prototype II</td>
<td>77</td>
</tr>
<tr>
<td>Final Comments</td>
<td>78</td>
</tr>
<tr>
<td><strong>The role of the interaction designer</strong></td>
<td>80</td>
</tr>
<tr>
<td>Exploration &amp; Sketching</td>
<td>82</td>
</tr>
<tr>
<td>Prototype &amp; Experience design</td>
<td>83</td>
</tr>
<tr>
<td><strong>Final reflections &amp; Conclusions</strong></td>
<td>85</td>
</tr>
<tr>
<td>Prototypes</td>
<td>86</td>
</tr>
<tr>
<td>Nine paths to explore when designing technologies for the unproductive city</td>
<td>88</td>
</tr>
<tr>
<td>Design to create identities and bounds</td>
<td>88</td>
</tr>
<tr>
<td>Motivate people to explore the city beyond where they live</td>
<td>88</td>
</tr>
<tr>
<td>Create agnostic spaces</td>
<td>88</td>
</tr>
<tr>
<td>Design for encounters and meeting the stranger. Intercommunicate people</td>
<td>89</td>
</tr>
<tr>
<td>Encourage ownership</td>
<td>89</td>
</tr>
<tr>
<td>Co-design: The design process as leisure time activity</td>
<td>89</td>
</tr>
<tr>
<td>Common Leisure</td>
<td>90</td>
</tr>
<tr>
<td>The street as a destination</td>
<td>90</td>
</tr>
<tr>
<td>Basic infrastructure</td>
<td>90</td>
</tr>
<tr>
<td>The end</td>
<td>91</td>
</tr>
<tr>
<td><strong>Bibliography</strong></td>
<td>92</td>
</tr>
</tbody>
</table>
Introduction
This is a project about cities, people and Information technologies. This is hopefully not a project about technology redesigning the city. Instead I’d like this to be an experiment on creating tools where technology helps people enjoy and participate in the place where they live and challenge the way they do it.

It parts from a hypothesis and personal belief: city planers structure cities but they become habitable when people participate, live and transform their environment with their small or big acts. The more the inhabitants engage with the city, the more human the city will be. Now that IT is becoming ubiquitous, urban informatics is mediating the relationship between the city and the people. And as a new tool it can be used with many purposes. Later I’ll discuss and critique some examples that embody some of these different purposes.

Here I will explore the technology to build a city that directly challenges the “natural” principles on how the system works. Humans live mostly in cities and cities are the core of our society. Whatever good or bad changes our society undergoes, they will probably take place in the cities first. Currently the official path of the integration of technology in cities aims toward the same productivism models: More control and efficiency in everything we make. And in the best case a naive belief in the sustainable growing.

The project goes against all of this, here I explore and design artifacts for another way of living the city. A city designed for leisure, for creative idleness and for participation. A city that dwellers enjoy without consuming or spending money. A place where the voice of the inhabitants is listened, and they are committed to participate. A place where the people take care of each others and have time to think beyond the immediate survival.

On a different level, the addition of digital technologies to the city fabric opens a playfield for us, the interaction designers. We, who some years ago were only deciding about software, bits, computer and gadgets, now have something to say in the highly complex ecosystem of public spaces, the home of architects, urbanists and sociologists. What new ideas can we offer? Which is our role in the planning chain that involves politicians, architects, urbanists, grassroots organizations and citizens?

If interaction designers have something to say about city issues, it shouldn't be only about making life easier or polishing the little problems we find in our daily interaction with the city. We can look further and challenge the common behaviors that might be problematic, and hopefully propose alternatives.
Democratic participation, environmental impact, integration, poverty. The challenges of our days are, of course, too complex to be magically solved by our socio-technological intervention. At the end we basically only sketch, prototype and create alternatives with our knowledge of people and technology. But these might be abilities that help citizens and decisions makers to envision and move toward new models of cities that help to solve these issues.

**The unproductive city**

The values we attach today to the act of “working” have not been always the same. For instance, in Latin language, Romans had different words for “work”. *Tripaliare* is one, and it comes from *tripalum*, a torture instrument, which gives a clue about the value of work (or at least some types) then. In addition, Romans also believed that the “piece of work” was not only the result of *labor* (another word for “work”) but also from the *otium*, a kind of “creative leisure”.

Following with semantics, I’m using the term “unproductive” as a provocative word. The lazy people, the unproductive behaviours have been condemned and even persecuted. The unproductive behaviours not aimed at producing economical benefits are the enemies of the progress. The oxford dictionary gives two meanings for unproductive:

*Unproductive 1: not achieving much; not very useful:

Unproductive 2: Not producing or able to produce large amounts of goods, crops, or other commodities*

In this document I’m not using the word unproductive in the first definition (I hope to achieve much, and create useful things) but from the economical point of view (second definition) I hope the results of this research avoid the production of goods, crops or commodities that we don’t really need.

I think that giving value to the unproductive actions- those not targeted to produce “economical benefits”- to the laziness, to the creative idleness, is a starting point for a better way of living together.

Apart from giving value to the unproductive part of our life, I also consider its importance in order to move towards a more engaging and participative city. By designing for the idleness, giving value to it, and moving the leisure activities from the private context to the public context, I hope to contribute to open up a public participation in an additional dimension to the traditional political involvement and the job-based production.
Project framing
Contexts

This work has been done in collaboration with different groups of people in Madrid and Malmö. This is a summary of who they are.

Periphèria

Part of this work is framed within the European project "Periphèria" subtitled as "Smart Peripheral Cities for Sustainable Lifestyles". The Malmö group inside periphèria is formed by the companies Do-Fi and Peoples Entertainment, Malmö Municipality and Malmö University and also the youth Organization RGRA.

The working space is the multicultural neighbourhood of Rosengård “most famous for being an isolated and peripheral part of Malmö although it is situated very close to the city center” The project aims to solve questions like: How to uplift local identities and visibility of positive potential? How to increase participation in the public sphere? How to enhance public interaction between different groups? How to express a more nuanced (and positive) picture of the area? (Periphèria 2012)

Inside Periphèria-Malmö I took the role of “Technology facilitator” responsible of “Monitor the ongoing technology development within the periphèria and introduce relevant technologies to the community”

Medea and the stakeholders

MEDEA is a design led research centre for collaborative media at Malmö University. The group main focus is on new communities, new publics and new forms of expression.

RGRA is a grassroots hip-hop youth organization whose members are first and second generation immigrants living in the suburbs of Malmö. They are currently opening a local radio channel in Rosengård.

The local Company Do-Fi is involved too. They mainly develop locative media software and mobile applications.

Madrid

Another set of experiments for this project take place in the city of Madrid. The first one is a workshop at “Medialab-prado”. Medialab-prado is a space devoted to the production of knowledge and projects related with the intersection of art technology and society.
The second one takes part within the Spanish 15M political movement. In the middle of the current political and economical crisis, during the local 2011 elections, people started to protest on the street occupying the public space, camping and making assemblies. The movement aims for the regeneration of the political system and another set of politics to recover from the economical crisis.

More information about these two contexts is found under the description of the experiments.

**Methodology**

Because of these many different contexts and stakeholders, the design process combines several tools from different methodologies. The project is made by many experiments and reflections before and after, following the “Reflection in action” methodology inherent to design. (Schön 1990) which has been probably the only way of acting that is common to all the experiments.

In some cases the experiment is a tool to learn about the design problem and for other experiments there is an ethnographic study before. In order to achieve a basic level of comprehension of the design field I’m working, I read the basic authors of related disciplines like sociology and architecture. But the main part is made by the analysis of related projects. As it will be shown later I analyzed them trying to follow a “design critic” approach. Instead of just enumerating or describing some significant examples I’ll try to elaborate some social and cultural connections around them. (Bardzell et al. 1997)

The periphèria project is based on the Living Labs methodology. A living lab is a research concept defined as a “user-centred, open-innovation ecosystem, often operating in a territorial context, integrating concurrent research and innovation processes within a public-private-people partnership.”

The experiments within this methodology cover 4 stages (LINDE et al. 2012):

- 1 Inception: Is the start up phase for the collaboration process. Where we find the partners and define the goals and requirements.
- 2 Definition: Defining the stakeholders and partner roles; evaluating business case, agree contract details etc...
- 3 Operation: Co-innovation of product service enhancements; product service testing, expert collaboration, user experience innovation.
- 4 Completion: Evaluation of experiments and collaborating
The first 2 steps -Inception and definition- were already done when I joined the Periphèria project. The stakeholders were chosen and the contract and agreement were also chosen. So the tasks and process described here are framed mainly in the 3rd step: Operation.

This full approach towards co-design aims to create a movement that empowers citizens, not just as consumers but also as co-producers involving the communities not only in the design phase but also in the delivery of services. This open innovation methodology goes beyond the idea of "engaged citizens" in the urban affairs. It is replaced by the idea of mutual partnership with shared responsibilities between the public authorities and the local citizenry. The Periphèria project takes over the notion of applying open innovation for building the "smarter city" based on citizens' engagement and in urban networking.

It is important to mark that the notion of stakeholder in this kind of project doesn’t only includes key experts or institutions but also and especially: (LINDE et al. 2012)

- Communities of practice ("e.g. resident associations")
- Communities of interests (" Environmental associations, sports associations")
- Communities of practice (" Educational groups and university depts.")

Nevertheless, this kind of approach requires a large time scope. Much more than the 5 months scope for the project. So in order to create some results, the actual methodology that I took moves away from this "open innovation" with the community towards a much more “designer driven project”.

For example, our main stakeholder the RGRA group shares interests with the project and they are committed to help but this is not a priority for them. The collaboration is established from meeting to meeting and it takes quite a long time between meetings whereas the design of a new product or services needs a continuous commitment. So even when the open innovation process could provide better results in terms of impact over the city, It had to be adapted to this thesis project in order to be more agile and adjusted to our time constraints.

In short, some things that don’t change from the previous description of the living labs process:

- Involvement of users. There is a group of local stakeholders I've been working with.
- Workshops as a co-design encounters

What it changed is:
• The designer starts prototyping with its own ideas and doesn’t wait for the stakeholders input before designing.
• Improvised stakeholders: I had to take a more improvised approach like finding opportunities to engage with different communities of interests that might offer a change to test new prototypes.

This leads towards a less collaborative process, which in some points is more similar to the “user centred” design. It diverges from the co-designing goals in order to get some outputs and prototypes in a shorter period of time.

Infrastructuring

Infrastructuring is another concept guiding many of the developments I do here. There are different definitions for what infrastructure is in IT or Design. Common language presents infrastructure as a substrate, something upon which something else “runs” or “operates”. A more useful definition is that infrastructure is fundamentally a relation, not a thing. This notion reduces the importance of things and people in technological change and focuses on infrastructural relations. So the “substrate” is not only a substrate and becomes substance. (Star & Ruhleder 1995)

In the context of the Malmö Living Labs, Björgvinsson (Björgvinsson et al. 2010) explain their notion of infrastructuring as a long term process, not delimited to a design phase but to the whole process of designing innovation. It is an infrastructure for the design process, a well-established set of organizations and relationships that makes possible a continuous match-making process and quick contextual experiments. The designer becomes a meta-designer, placing the necessary elements for others to design. “The object of design is to produce a public thing open for controversies from which new objects of design can emerge in use” (Ehn 2008)

Part of the work I do in this project is under the umbrella of the Malmö living labs so this notion of infrastructuring is present. I take advantage of it, but it I am not a meta-designer. The way I understand infrastructuring work is similar to the idea of open-ended design or the design for appropriation. My role during what is called “project time” is not just to set-up the framework to facilitate the design and the emerging of controversies, but also to design myself.

But design doesn’t stop in this “project time”. There is also design “at use time” when the device is ready to be used. To design for the users to appropriate the output of the “project time” in their own way during the “at use time” is also the design of infrastructure. So infrastructuring is about providing technological opportunities that are not “fully designed” but so that it can be appropriated by users/citizens either by configuring
the functionality, by adding content themselves or for it to be included into their social life.

Evaluation

For now I have explained which are my motivations to this work, and some methods to ground the design process. But how to evaluate whatever it comes out of this process?

The assessment of design projects can be very tricky. A design problem is never a math problem with a right result and many wrong results. In order to find an evaluation methodology, I should connect this work with a well-known field, which in this case is "social sustainability" attending some of its diverse definitions like:

“A strong definition of social sustainability must rest on the basic values of equity and democracy, the latter meant as the effective appropriation of all human rights – political, civil, economic, social and cultural – by all people Sachs (1999: 27)”

Development (and/or growth) that is compatible with harmonious evolution of civil society, fostering an environment conducive to the compatible cohabitation of culturally and socially diverse groups while at the same time encouraging social integration, with improvements in the quality of life for all segments of the population Polese and Stren (2000:15-16)

Also if we attend to the characteristics of sustainable communities (Colantonio & Dixon 2009):

• 1 Active, inclusive and safe fair, tolerant and cohesive with a strong local culture and other shared community activities
• 2. Well run-with effective and inclusive participation, representation and leadership
• 3. Environmentally sensitive. Providing places for people to live that are considerate of the environment
• 4. Well designed and built featuring quality built and natural environment
• 5. Well connected - with good transport services and communication linking people to jobs, schools, health and other services
• 6. Thriving- with a flourishing and diverse local economy
• 7. Well served - with public, private, community and voluntary services that are appropriate to people’s needs and accessible to all
• 8. Fair for everyone – including those in other communities, now and in the future.

I find that some of these qualities like “active, inclusive, safe and Well-Run” are among the goals of our "unproductive city".
So as I stated before, we can now reinforce that we are dealing with social sustainability issues. Now, within this field, how easy is to measure results? Certainly, it is not an easy task. Social impact assessment is a task that mostly remains unfinished. Commercial project are commonly measured in terms of profitability. But how successful is a project that aims to improve social relationships between people in a neighbourhood or to change the political forces within a city?

The measuring of these kinds of projects presents the two problems of metrics and the time scope. Or with another words: there is no direct metric and the impact, if exists, may happen after the project has finished. In the context of the Periphèria project the approach toward this issues, is to define the metrics together with the users and let themselves to define what is “good or bad progress”. But these discussions will take place further on time, when Periphèria approaches its end. So it wasn’t discussed during these months.

There are many other different attempts to establish these metrics, for instance municipal authorities have begun to experiment with the use of composite index, such as the ‘Sociale Index’, which integrates different social dimensions together to measure and monitor the social evolution of places. On one hand, these indexes can provide powerful concise visual indications concerning the social qualities of places and their evolution over time. On the other, aggregated index may run the risk of providing superficial social representations of places and communities, whose social performance is summarised and compared through single numerical values.

For example, for the EU there is a proposed framework for Urban Regeneration projects in cities. This framework includes three layers: The theoretical approaches, the principles and objectives and the practical results. The thirds are a list of metrics including: (Colantonio & Dixon 2009)

- Identity, sense of place and culture
- Empowerment, participation and access
- Well-being, Happiness and Quality of Life
- Social mixing and cohesion

Which are rated in a scale from 0 to 5 according to a checklist of objectives to accomplish.

**Social Return of Investment**

Another way to measure is through the “Social return of investment”. When talking about traditional investment the return of investment means the amount of money you get back divided by the money you invest. So an investment that gives you 1.2 € for each euro you spend is a good business.
The Social return of investment (SROI) is a methodology to assess social projects in a similar manner. (NEF 2004) They describe the core activity of the organization as a process where there is:

- An input: The resources invested in the activity
- An output: The direct product from the activity
- And the outcomes: Changes to people resulting from the activity

The output and the outcomes are metrics that must be carefully chosen to reflect the goal of the organization. They stress the selection of the objectives as a combination between what different stakeholders expect from the organization. The outputs must be related with the "theory of change" that is, the reason why the organization thinks that the initiative is going to produce a positive impact.

The most complex part of this assessment is the monetization. Once the outcomes from the project are evaluated they are translated intro money. For instance let’s imagine a project to teach office informatics to people with disabilities. It requires 10000 € to start. The goal is to provide those people formation so they can find a job. The “10000€” is the input. 10 months after the project is over they found that from 50 people 5 now have a job. That’s the output. Without the initiative they estimate that only one would have found a job. So the impact is 4 additional employed people. They evaluate this in terms of how much money the government is saving because of not paying social benefits to those 4 new employees and how many taxes are they paying. At the end results that after 5 years the government saved 9000€ and made 11000€ so the value of the social impact is 20000€. This means that for each euro invested the project returned to society 2€.

The objections to this system are many. Starting with the difficulty to translate many outcomes to money: what if the other 45 people didn't get a job but now feel better because they can use a computer at home and get a girlfriend/boyfriend through Facebook?

Furthermore, in this project we are specially designing “unproductive” technologies, which are the opposite of what this methodology tries to measure. They use the language of capitalism to give a monetary value to things that don’t have one. But the unproductive technologies are not even possible to be translated into money.

Anyhow, besides this last step of monetization, the others must be regarded in every project. Specially thinking about the relationship between the “Theory of change” and the outcomes and the value of these outcomes to the different stakeholders.

In short, no one of these two methods seems to fit well in order to assess the quality of prototypes and short-term interventions.
A wicked problem.

So far I’ve stated that I want to design digital technologies to promote uses of public spaces that challenge the social religion of productivism + consumerism. Instead I celebrate participative leisure, free time, political involvement and social relationships. Digital artifacts for what I’m calling the “unproductive city”

This is clearly not a well-defined “problem”. I also described a methodological approach, which is grounded on living labs but not exactly. And if that was not confusing enough I’ve just found the huge problem of measuring the results of any intervention I will design.

These are elements that define what it is called, a wicked problem. In 1970 Horst Rittel concluded based on his experience of urban planning, that design is best understood as negotiation. There is no “right” solution, only a number of more or less good solutions supported by more or less good arguments. He coined the term “wicked problems” to indicate problems that are not amendable to analysis and description before they are solved. (Löwgren & Stolterman 2004)

Some of the characteristics Rittel gave to these problems are:

• Wicked problems have no definitive formulation.
• It’s hard, maybe impossible, to measure or claim success with wicked problems because they bleed into one another, unlike the boundaries of traditional design problems that can be articulated or defined.
• Solutions to wicked problems can be only good or bad, not true or false. There is no idealized end state to arrive at.
• There is no template to follow when tackling a wicked problem, although history may provide a guide. Teams that approach wicked problems must literally make things up as they go along.
• Every wicked problem is a symptom of another problem. The interconnected quality of socio-economic political systems illustrates how, for example, a change in education will cause new behaviour in nutrition.
• Every wicked problem is unique.

The social problems I target cannot be “fixed”. But because of the role of design in developing infrastructure, designers can play a central role in mitigating the negative consequences of wicked problems and positioning the broad trajectory of culture in new and more desirable directions. (Jon Kolko 2012). The unproductive city is just that, a design fiction towards rethinking the roles of work and productivity in our job.

As a wicked problem, it is “a multidisciplinary problem” and many social disciplines have made contributions related with the problem. The next chapter is devoted to briefly review different authors and related traditions
others than “design” such as political sciences, sociology, urbanism and ecology.
Work, productivism, technology and city models
The following sections are dedicated to describe the sociological and political contexts where I develop the experiments. The guiding line for what comes next is this:

1. We are in a transition stage between a 20th century capitalist-based society to something different. I state this because of the double crisis we are immersed in: The economical and the ecological crises. Both of them have a similar origin: The overproduction and the exponential growing.

2. Then, to solve both crises I believe that we need new social models. For instance a steady state economy, which is a beautiful long term goal. To achieve this we need to take some economical decisions: Work less, distribute wealth, basic income system....

3. In this project I don’t focus on these, lets say, “socio economical changes”, but on the set of values which need to come together with these changes. In this new society we will need to replace consumerism, greed and paid-work focus for something different. Celebrate free time, enhance social relationship, participate in common decisions...

4. As an interaction designer I work with technology and I choose to prototype ideas for these issues from an urban informatics point of view because I’m interested in urban technologies and in how urbanism and technology can work together to produce societal changes.

So far, this is the “ideological breadcrumb” which connects the issues I will expose in this chapter and the design work I describe in the rest of this report. Nevertheless it is important to warn that the goal of this report is not to academically demonstrate the existence and the motivations for these crises or to argue that a steady state economy is the right solution for the future. It is a political perspective. As a designer I choose my matters of concern and I bring here my political perspective and this perspective frames the design experiments and interventions.

So the reader shouldn’t expect a thoughtful and academically well grounded explanation of the different theories, traditions and authors I’ve read. Instead it is a big picture with influential ideas and concepts from the fields I work within this project.
Productivism is a dangerous religion.

In 1930, the economist John Maynard Keynes imagined that by the beginning of the twenty-first century, the working week could be cut dramatically to 15 hours. He anticipated that we would no longer need to work long hours to earn enough to satisfy our material needs and our
attention would turn instead to ‘how to use freedom from pressing economic cares’. (NEF 2010)

Keynes was wrong. The amount of profit we produce for each period of time we spend working has grown thanks to science and the use of technology in all areas of the industry. But this increment on productivity didn’t release workers from their 8 hours shifts. Being more productive doesn’t mean we will need to work less time to have a good life. It means that somebody is earning more money.

Currently we are in the middle of a crisis in the western part of the world and nobody exactly knows when and how it will end. We are told that work is a privilege. The economy is not growing enough and it has to grow in order to provide everybody a job. But, why the system only works if we grow year after year? Why do we have to work the same (or more) if we produce more things for each hour we work? If we produce more and earn less money, who is winning? Do we always need to compete with other people and countries? Is it possible to keep growing and growing forever? Does technology always create more employ than it destroys?

The techno-capitalist answer is: “If we all keep growing we will be richer, no matter of inequality, in a long term the whole world will reach a decent wellness. The free markets and capitalism are the only way to handle the economy, and science will solve all the environmental crises”

But more and more people are not satisfied with this response. Even though we don’t know which is the alternative. We are used to live the way we do that it is hard to imagine a society not focused on growing while still keeping our welfare.

> We are attempting to use the logic of a scarce marketplace to negotiate things that are actually in abundance. What we lack is not employment, but a way of fairly distributing the bounty we have generated through our technologies, and a way of creating meaning in a world that has already produced far too much stuff. [...] We start by accepting that food and shelter are basic human rights. The work we do -- the value we create -- is for the rest of what we want: the stuff that makes life fun, meaningful, and purposeful. (Rushkoff 2011)

Those who work in technology are not stranger to these issues at all. Many of the technological products are designed to increase the efficiency or to create a competitive advantage against other companies (free market) or countries (wars). It has been like this since forever, and thanks to that in many parts of the world we enjoy a welfare that kings and rich from the past couldn’t even dream. But it is not working that well anymore. Climate warming is an urgent problem and it is drawing the limits for everything else. Also the economic crisis, the overproduction and the unemployment are big symptoms of a global systemic crisis. So when we, as designers,
are asked to design new technologies, it is crucial to stop and think which purposes are we serving.

Crisis I. Ecology. Reaching the limits to growth

Let’s imagine that all the socio-economical problems connected with the exponential growth were solved. The human race still would need to find the way to solve the problems of energy shortages and environmental limits.

In early 1970’s a book was published entitled “The limits to Growth”, a report of the Club of Rome’s project on the predicament of mankind. It was made by a group of scientists at the MIT and it examined the evolution of the whole world’s economy by means of a mathematical model based on “system dynamics”. The report’s concern was focused on how the world might look like 100 years later. It concluded that the long-term exponential growth would result in severe constraints on all known global resources by 2050 to 2070. (Simmons 2000)

The report was strongly criticised during the following years by different groups of interest. It was basically demonized until the mid 90’s when it started to attract attention again (Bardi 2008). Currently with the data from the first 40 years many reports shown that it is similar to the calculations shown in “The limits to Growth”

Among the dangers that threaten our future is the “global Warming” the one which takes most of the space in newspapers. Global warming is caused by the emission of gasses that retains the heat and this warming can destabilize the earth climate irreversibly.

According to a recent report by 15 of the world’s most respected climatologists, to avoid this irreversible climate change it is necessary to cut this emission by 6% yearly starting from now. (Hansen et al. 2011)

Greenhouse gases are generated in most of human activities: Agriculture, transport, and industry. So cutting 6% of these gases has extremely important economic and social implications. Especially in the most developed countries the challenge is double. The under developed countries will increase their emissions because they need to grow. How much the first world’s economies need to cut emissions in order to let developed countries space to grow and still maintain the 6% global cut in greenhouse gas emissions?

This reduction of emissions set the border of all economic activities in the earth. It means that in order to protect our mid-term future, we cannot contaminate as we’ve been doing. So we cannot produce as we’ve been doing. This has implications in the way we manage economy and would probably increase the structural unemployment we already have.
Crisis II. Values: Work & Leisure

The way we understand work is not given by nature, but it is a social construction. Before industrial revolution words like unemployment or salary or job had different meanings or didn’t event exist. In ancient Greek and Rome, society rejected work as a decent activity for “free men” or citizens. For them the leisure time was not “wasted time” and the creative leisure (‘otium’) was as responsible of “workpieces” (opus”) as “work” (labor)

During the first centuries of Christianity the work was considered a biblical curse. And even in the middle age, the non-working days were almost half of the year:

“Even in backward mining communities, as late as the sixteenth century more than half the recorded days were holidays; while for Europe as a whole, the total number of holidays, including Sunday, came to 189, a number even greater than those enjoyed by Imperial Rome. Nothing more clearly indicates a surplus of food and human energy, if not material goods. Modern labor-saving devices have as yet done no better.” (Mumford 1971)

Then, the Christianity turned towards the cult of work, the “Ora et labora” or the salvation through work that was a norm in some monastic orders. Calvinism and Protestantism enhanced this vision and towards the XVI century, work became the supreme value in Europe and leisure time and idleness were seen only as merely passive and parasitic activities.

By the XVII the ideas of the first Christians about having little attachment to material goods have been completely replaced by Adam Smith ideas on how individual greed improve the whole society through the “invisible hand” of the market.

Meanwhile, the role of technology at work also changed: from being a god’s present to release humans from hard work, technology became an assistant to help humans produce more in the same time.

Furthermore the capital became the main motor of relationships, and it is the capital what determines what is work, what is not work, what is production, and what it is not.

Marx’s theories about work also helped to convince workers on the sacred belief in work, progress and productivity. The Soviet Union was also a work-focused society with a strong importance given to the competition against capitalist countries:

The Stakhanov movement to a degree comes down to an intensification of labour, and even to a lengthening of the working day. During the so-called “non-working” time, the Stakhanovists put their benches and tools in order and sort their raw material, the brigadiers instruct their brigades, etc. Of the
seven-hour working day there thus remains nothing but the name. (Trotksy 1937)

So even the proletariat don’t ask for bread anymore, but ask for jobs.

**Lafargue: The right to be lazy & Bertrand Even Rusell. In Praise of Idleness**

Even though the importance of work over idleness has been the hegemonic idea, there are some examples of thinkers who questioned the role of work in society.

_A strange delusion possesses the working classes of the nations where capitalist civilization holds its sway. [...] This delusion is the love of work, the furious passion for work, pushed even to the exhaustion of the vital force of the individual and his progeny. Instead of opposing this mental aberration, the priests, the economists and the moralists have cast a sacred halo over work._ (Lafargue 1883)

This is just one of the compliments Lafargue throws to the work moral in his famous essay “The right to be lazy”. Lafarge attacked the way everyone was cheated for the sake of progress. His solution to the cyclical production crisis of capitalism was to work less and have time to consume the results of the work.

Sixty years later, Bertrand Rusell wrote his essay “In praise of idleness”

_I want to say, in all seriousness, that a great deal of harm is being done in the modern world by belief in the virtuousness of work, and that the road to happiness and prosperity lies in an organized diminution of work._ (Russell 1932)

In the essay Rusell reflects on why the production of goods is considered a merit meanwhile enjoying the results of that production is bad.

Nowadays, times have changed and consuming goods has now almost the same consideration as producing goods, both are necessary to sustain a market economy.

Nevertheless some other ideas haven’t changed that much. And I will use the example I know better, the situation in Spain. Even though the reasons behind the crisis are quite a few, the northern countries blame the southern ones for not working enough and spending too much. Spanish government agrees with quotes such as “we have to work more” “We have to be more competitive”, “we have to increase productivity”. So the solution is again, working more and more.

And for many people this is not bad because, why do people want more free time, if they have supermarkets to quickly buy many things? About this Rusell wrote:
When meddlesome busybodies suggested that perhaps these 12 hours were rather long, they were told that work kept adults from drink and children from mischief. When I was a child, shortly after urban working men had acquired the vote, certain public holidays were established by law, to the great indignation of the upper classes. I remember hearing an old Duchess say: ‘What do the poor want with holidays? They ought to work.’ People nowadays are less frank, but the sentiment persists, and is the source of much of our economic confusion. (Russell 1932)

This leads us to the discussion on what to do with leisure time. Clay Shirky tells the story of people in England during industrial revolution, when they mostly were drunk on gin most of the day because everything was so messed up that it was the only way to survive. “it wasn’t until society woke up from that collective bender that we actually started to get the institutional structures that we associate with the industrial revolution today” (Shirky 2007)

He argues that TV has been the gin of SXX and now we are waking up and using the Internet to produce things. Some of things are useless (cat’s photo compilations) while others are amazing like the Wikipedia. But both represent a change of common people from just consumers to creators.

The borders between what is work and what is not work are more blurred everyday. People are moving towards interesting ways of using the free time meaningful for them and the people around. The creative idleness or the “otium” the Romans appreciate. Designing for the unproductive citizens, should consider this too. Not just give value to laziness and leisure time but also encouraging the use of the free time for meaningful activities beyond the simple consumption of goods and information.

Thanks to the increasing of productivity we had in the last 100 years, we shouldn’t need to work too much to give ourselves a good basic life with food, shelter, education, healthcare. We now have this quality of life because we are able to produce much more than any time before. But it is time to rethink the proportions of “forced job”, money and leisure time.

**Alternatives, Decroissance, antiproductivism**

The central place that work and production occupies in society and the environmental crisis are two sides of the same problem. But which are the alternatives?

While the “corporate” design industry is still selling the green sustainable development, the current economical crisis and especially the global warming predictions show that there is not such a thing. No matter how green, “the green” cars are, if the global population use them, it will still represent an unsustainable amount of energy.
There is a more radical movement, challenging the notion of sustainable development for sustainable degrowth. It may be defined as an equitable downscaling of production and consumption that increases human wellbeing and enhances ecological conditions at the local and global level, in the short and long term [...] The paradigmatic proposition of degrowth is therefore that human progress without economic growth is possible. (Schneider et al. 2010)

For many activist groups and alternative economists, the current global crisis is the last opportunity for an ordered transition towards a sustainable model of society not based in traditional capitalism. This probably explains why degrowth movement has gained some public attention in the last years, even though the first references to these theories are from 40 years ago.

According to the scientific studies referenced in the previous section, it seems reasonable to think that it is impossible to keep growing forever in a planet with limited resources. So the question is not if degrowth is an option, but how it will happen. Degrowth supporters argue that we have to decide between a sustainable and ordered degrowth or a catastrophic recession in a world which wasn’t prepared for it.

As a political and sociological movement the degrowth supporters are not homogeneous and there are different and interconnected motivations (Schneider et al. 2010):

- Southern countries do not need to follow the development model of the US and Europe.
- The quest for democracy, the aspiration to determine our economic and social system, breaking the close link among the political system, the technological system, the education and information system, and short-term economic interests.
- “The meaning of life” and movements around it emphasizing spirituality, non-violence, art or voluntary simplicity.
- The last source can be called bioeconomics or ecological economics. It deals with the constraints linked to resource depletion and waste disposal.

Sustainable degrowth doesn’t mean degrowth of everything but a different way of thinking where increasing the GDP (gross domestic product) is not the goal. There is a difference between the growth of social welfare and the growth of GDP. The degrowth aims for living with less but live better. This “live better” is what I’ve been exploring in the project through different technological interventions to enjoy a more sociable city.

For a designer it is not enough to criticise how the system works, but to find opportunities to change it, to create new models that triumph because they are better than the old models. It is easy to think that consumerism doesn’t make us happier. But what does? Many of the projects I start here
are an attempt to fill the free time of city dwellers with public alternatives to the shopping mall.

This section about degrowth concludes the part of the chapter devoted to describe the political perspective of the project. Now it is time to take a look to the context where and the technical field where I develop the experiments: the city and the urban technologies.

Because I am working with the urban space, it is interesting to learn from the creative forces and causes that shaped the cities we enjoy today. In the next chapter I describe some theories for the cities, with a focus on the clashes between the “designed” city and the “open source city” and the opportunities that the integration of technology in the city opens for citizens participation and creative idleness.

**Urbanism, cities technology**

**Open city Vs Closed city**

Our today’s cities are the result of history and the urbanism theories since the 20th century. Urbanism has studied the relationship between the street designs and the kind of life it creates. Understanding the different theories and their goals can help to ground urban informatics and the relationship between the technology and the different city models.

During the last 150 years urbanism has been a war field between central planning and “no-planners”. And this dialog is interesting for us here because it is parallel to the argument of design “final products” versus “open design” or the notion of “design infrastructures” that I'm using here.

One of the most influential urbanism texts comes from the modernist Le Corbusier and his “Ville Radieuse”. This project was a plan for the center of Paris, that even when it was not realized, made a huge impact in the urbanism who came later. Those principles were written in the “Athens chart” and it aimed for a city based in efficiency and order with practical principles such as (Rubin 2009):

- High buildings.
- Specialized areas.
- Contact with nature.

These principles aimed at solving the problems of the cities at the beginning of the 20th century: insanity, lack of green spaces and horrible living standards. This treaty influenced the construction of social housing in the post-war age in the whole world. It is easy to see that Rosengård planning follow these principles: Big blocks of flats surrounded by green areas with a shopping mall at the center.
Le Corbusier opinions about other kinds of urbanism or even about the special “personality” of cities are exemplified by his idea of destroying the whole center of Paris to build his “Ville Radieuse”. How one of the most renowned architects wanted to do which for the 21st century people looks like cultural terrorism? Rubin exposes several reasons like the sense of the superiority of the architect, an absence of almost any grounding of the Charter’s claims in empirical research, natural science, medicine, or social science. Also modernists gave importance to the idea of restoring harmony to the relationship between time and space in modern cities, especially in the case of the speed of mechanized transit within urban space.

The speed as a symbol of progress, the use of the car, the massive production... all these typically modernist symbols, modelled the kind of neighbourhoods where nobody wants to live today because the lack of humanity. It happened that this kind of urban planning didn't create any social life and didn't make the neighbourhoods attractive for people to stay, if they can afford to move to different places.

Another name among the “Famous urbanists” is Robert Mosses. For some people the man who built the infrastructure that New York needed. For others, he was the man who built highways over traditional neighborhoods.

Mosses was the “master builder” of New York. But he found an antagonist as big as him. Jane Jacobs, which today is also one of the most respected urbanists. Jacob fought to defend her beloved neighbourhood from being destroyed by Mosses. She didn’t have a formal education in urbanism and based all her theories not in top-down theories but in a big amount of detailed observations on how people live when they are in dense agglomerations. Jacobs’ most famous book “Life and death of great American cities” is a beautiful compilation of observations and recipes aimed at having safer and vibrant neighbourhoods. For Jacobs a well-balanced neighbourhood is the one that is not planed, but appropriated by neighbours. (Jacobs 1961)

These two names, Mosses and Jacob are the exemplification of the fight between planning and no-planning. Nowadays most of the urbanists advocating for “open city” models mention Jacobs as one of their main influences.

Richard Sennet is one of those. One of his urban theories is about the “over design”. He argues that the modern “over design” or “over determination” leads to “Brittle cities” (Sennet 2006) That’s because cities and uses change with time, and if the city is too designed to serve a purpose, it decays when uses change much faster. Hence Sennet defends the “incompleteness” by design.

“Incompleteness may seem the enemy of structure, but this is not the case. The designer needs to create physical forms of a particular sort, ‘incomplete’ in a special way. [...] the buildings acquire their specifically urban value by
their relationship to each other; they become in time incomplete forms if considered alone, by themselves."

Sennet adds two more requirements to his “open city” first is the porosity of the “walls” between areas and secondly the open narrative: Urbanism is about to shape narratives of the urban development but they should be open narratives in a sense that admits conflict and dissonance “a continual struggle between equilibrium and disequilibrium”. For him this open city offers a democratic experience, in the sense of citizenship and issues of participation. The problem of participation in cities today, is how to create some sense of relatedness among strangers. This issue, which Sennet studies related with the design of buildings and streets is also central in the kind of technology design I do here.

**IT and cities: tales of the smart cities.**

In this project I’m designing technologies for cities and currently the term “smart city” is what it is used to refer to the result of this integration. I’m not using it in this report because somehow it represents the opposite to the kind of technology design that I propose.

Under the name of “Smart city” the IT companies are selling their solution for the “cities of the future”. There is no clear definition but a compendium of desirable things that cities must have in the future: (Caragliu et al. 2011)

- The “utilization of networked infrastructure to improve economic and political efficiency and enable social, cultural, and urban development,”
• An “underlying emphasis on business-led urban development”
• A strong focus on the aim of achieving the social inclusion of various urban residents in public services.
• A stress on the crucial role of high-tech and creative industries in long-run urban growth.
• Profound attention to the role of social and relational capital in urban development.
• Finally, social and environmental sustainability as a major strategic component of smart cities.

It is hard to disagree that those qualities are very important for cities with a high quality of life. Nevertheless there are some critical voices who attack the way these smart cities are growing. In many cases they are emerging from agreements between big IT firms and governments. One example is the PlanIT-valley in Portugal, which is being built right now. In the infographics we see green spaces, futuristic buildings and mobile phone apps for every place. Also an urban operating system will control everything from water to electricity to traffic lights. Which is the role of citizens when everything seems to be under control and so pre-designed?

Sociologist Saskia Sassen argues that the first phase of these new smart cities can be very innovative, with many local inventors using these new infrastructures in creative ways. During this phase it is possible to enjoy a kind of open source urbanism with citizens solving IT problems in the city.

For Sassen, the main problem might appear later because all this new technologies are not sufficiently urbanized. “That is, they have not been made to work within a particular urban context. It is not feasible simply to plop down a new technology in an urban space.”

This lack of urbanization and the obsession for creating “complete” systems with hidden technologies working silently behind the scenes has the risk to create obsolete cities. Sassen defends a "City partially made of a high number of interventions and changes from the beginning. Each one of these small interventions might not seem too much, but as a global it gives the city an unfinished status that provides them long life, flexibility and mutations”

This process of bringing in technologies into cities is being done from managers’ decisions to implementations, without a people’s participation and discussion. It is an invisible network sensing and acting in an apparently neutral way just for the sake of improving our life. In 1999 the Harvard laws school Professor Lawrence Lessing, argued on his book “code and other laws of cyberspace” that in the Internet, laws didn’t work the same as in “real world”. On the Internet what constraints what is possible or not to do is not the law but the software. (Lessig 1999) Could it possibly be the same when technology controls our cities? So in addition to other benefits, the Lessig hypothesis seems sufficient to advocate for
transparency and people’s control of this process of adding layers of hardware and software to the place where we live.
Criticizing Urban Informatics
The goals of the project belong to the field of social sustainability. The technological tools I use to achieve these goals are part of what it is called "urban informatics" or "urban computing: The integration of computing, sensing, and actuation technologies into everyday urban settings and lifestyles.

With the demographic explosions of cities, urban computing is a quite popular field with many examples and different projects tackling all kind of issues from democracy to sustainability to integration.

To analyze the relationship between these issues and different projects I will talk about them as if they were games, movies or art pieces. Jeffrey Bardzell (Bardzell et al. 1997) argues that the interaction design discipline must embrace the tradition of criticism in the process of knowledge construction. I agree and I add that it is especially interesting when dealing with wicked problems within interaction design because, as we discussed before, there is no assessment procedure to decide what is right or wrong in these problems. Thus the process of criticizing existing projects from different perspectives, even though it doesn't replace the search for proper quantitative methods, is helpful to describe the project itself and its social implications.

In the next section I will write about the different products that fall beyond the "urban informatics" category. The goal is to have a good amount of examples to be able to extract tips, patterns and challenges to design technologies for the “unproductive citizens”.

**Serendipitor**

*Serendipitor* is a software ideated by Matt Shepard. It is defined as "an alternative navigation app for the iPhone that helps you find something by looking for something else" (Shepard 2011)

So as a navigation tool, you enter a destination and *Serendipitor* finds a path towards that destination. But unlike other navigation tools "as you navigate your route, suggestions for possible actions to take at a given location appear within step-by-step directions designed to introduce small slippages and minor displacements within an otherwise optimized and efficient route."

This app resonates with many experiments since the 50’s related with situationism. Situationists wanted to attack the capitalist society and they became famous for the way they did it with ideas and tactics between political activism and art. Many of their acts were related with our perception of the city or what they called Psychogeography “the study of the precise laws and specific effects of the geographical environment,
consciously organized or not, on the emotions and behaviour of individuals.”

The *dérive* is one of their most famous exercises: In a *dérive* one or more persons during a certain period drop their usual motives for movement and action, their relations, their work and leisure activities, and let themselves be drawn by the attractions of the terrain and the encounters they find there... But the *dérive* includes both this letting go and its necessary contradiction: the domination of psychogeographical variations by the knowledge and calculation of their possibilities.

So this *Serendipitor* is a translation of the *derivé* into the digital. Furthermore, beyond this direct inspiration I find two interesting aspects that confront Serendipitor with the majority of the mobile phone software that is being written for cities.

Firstly, the *derivé* enhances the effect of the randomness in our experience of the city, while the GPS navigation technology almost removes this effect. Getting lost in the city is a trouble if you are going from point A to point B. But it can randomly help you to find interesting things to do and hidden places. It is usually said, that many scientific discoveries were made by accident. It is as true as I found many interesting bars, shops and spots also by accident.

The GPS increases our efficiency moving within the city but as a collateral damage, it also limits our knowledge of the city, finding always the same paths to the same destination.

The second confrontation between common mobile software and Serendipitor is pointed by Shepard itself in his book-interview (Greenfield & Shepard 2007)

*Hannah Arendt has described public space as the place where we encounter the stranger, a space of friction that breeds tolerance through encountering differences in opinion, social standing, ethnicity, economic background, etc. Yet so many of the applications being developed for iPods, Blackberrys, and mobile phones are oriented toward finding a partner with similar interests and maintaining constant contact with our established social net-works or favorite places and things. So looking forward, it would seem one strategy for urban computing would be to reclaim urban space as a place for encountering difference.*

If we go back to the Jacobs thoughts, ”diversity” is among the desirable qualities of healthy neighbourhoods. City centres and many neighbourhoods are now full of diversity, but the ”digital” layer is acting as a filter, it help us to avoid contact with the diversity because it always drives us toward the ”right place/people/concert/bar” for us. Even though physically we share space, cultural groups are more isolated. This paradox might have deeper implications. Going a step further and entering in the
field of the speculation, this paradox could be something to care about when we discuss the problems of our democracies. Being able to achieve agreements among differents is at the heart of a democratic society, but it is not an easy skill to learn. Especially when we live in hyper connected virtual bubbles where we only see an environment that supports and reinforces our own world perspective.

**SeecllickFix**

SeecllickFix is a mobile service that helps citizens to report issues they see in the city. A user of SeecllickFix sees something wrong. It might be a hole in the pavement a broken fence, a wrong traffic signal. Through the tool he reports the issue to the local government. (Inc 2008)

SeecllickFix is a company, and as such, it aims to be profitable. The business model seems quite simple. They've built a platform to support a wide range of interaction between citizens and city governments. It is something that they can export to different cities without the need of many changes, so they can charge the city for a customized app, a customized Facebook page and for the service to manage the alerts and information that citizens do.

The user experience and overall design of the site doesn’t outstand but seems over the minimum healthy line. Last year it raised 1.5m$ of founding and were featured in the famous Rockefeller foundation report: The future of cities information and inclusion (Townsend et al. 2011) But, why?

We moved away form a totally anonymous Internet based in fake nicknames to an identity-based web through Facebook. We like to stay in contact with friends far away, or with people who we admire. But we also need something closer. While foursquare wants you to share your places with people you don’t even know, these new kind of social networks helps you to be part of something and even contribute to transform it. The border between “real life” and Internet life went away and investors and research foundations think that the next step is going to be more real world, with social networks focused on the places we live. SeecllickFix is just one. Everyblock, Uniiverse are others: (http://everyblock.com/https://www.uniiverse.com/)

A potential problem is that these services embrace the place and the local community even though they are the same everywhere. They try to be as wide as Facebook but with reduced communities inside. This uniform-but-local business might not work, because communities are different in different parts of the world. Besides this service implies to sign agreements with the local government, which is hard if the company doesn’t know the local issues.
Furthermore the vision of the citizen participation that SeeClickFix offers is quite limited. It is not a collective intelligence but a collective eye. Every modern project today involves “participation” and/or “sustainability”. But the implication of these words is quite weak. Participation tends to be a synonymous of “tell what you think” " be heard”. But in a democratic system it must also involve something else related with decision-making. And it needs more than the channel to be heard. It also requires a process of education and learning.

It is not clear that this low-profile engagement might create better communities. Some previous reports analyzing the influence of these local networks suggest that social media is not the shortcut to higher participation (Hothi 2012):

Social media may remove some barriers to participation, such as time, but it does not really affect more important determinants of participation: our motivations, values, desire to belong or have influence. These factors underpin our sense of efficacy and if you believe that you can change things, you are much more likely to act. For local communities, this sense of efficacy is also influenced by the attitude and capability of agencies like the local authority to listen to local people and act.

As I see the situation, these services are just a way to ease participation. But, participation for what? What can the participants change through these tools? What do they achieve? The local authorities have to implement other measures to transform participation into power and influence. When people perceive that through these tools they can change things they will become useful.

Services like SeeClickFix are top-down patches to the lack of involvement that most cities suffer and they are probably just a surface democratic clean up through technology (which is “modern” and get some press coverage).

Anyhow, hopefully they are the first step towards other models that combine real e-democracy technology with changes within the institutions. The continuous involvement on minor issues might create the groundings for emerging proposals like e-voting or even radical proposals like liquid democracy. In liquid democracy people take decisions based on direct referendum and a voting system that delegates some of our decisions in people we trust (V.A 2010)

There is certainly not a lack of new ideas and proposals. Designing and coding the tools is never the problem, but are institutions willing to empower truly participative citizens?
Citizen science

"Citizen Science" represents a paradigmatic example of the citizen engagement within the city through IT.

The creators want to encourage a new shift in mobile phone usage – from communication tool to "networked mobile personal measurement instrument". They explore how these new “personal measurement instruments” enable an entirely novel and empowering genre of mobile computing usage called citizen science (Paulos et al. 2008)

Through this use of the mobile phone they aim to improve the science literacy of everyday citizens through active participation in basic scientific premises and create new experiences and usage models for the mobile phone as a tool for grassroots participation in government and policy making

They argue that the Information on the Internet is very generic, and sometimes not practical. It is a paradox that if I want to check the temperature, the mobile connects to the Internet and receive the value from a sensor 5 km away. There are for sure cases when you want to know what's happening right where you are.

Currently, cities are developing their own sensor network, deployed by their own workforce or usually by external IT companies. They install the sensors, the administration gets the data and in some cases they offer the data to the general public in form of webpages or even machine-readable files like XML. If the information were neutral, this approach would be enough. After all, citizen sensors have probably lower accuracy and are not as reliable as professional ones. But data is not usually neutral. It is subjective from the beginning and this is illustrated by stories like the following. A couple of years ago the city of Madrid was registering dangerous levels of pollution in the city air. The measurements from the network of stations spread around the city indicated contamination over the EU limits in many points. Their solution was to move the stations from places close to the roads to places next to parks. After this, the air quality data improved. (Rainsford 2011)

Now that data is supposed to be in the core of many decisions, it is important that the civil society has the tools to be sure that the data is at least not manipulated. (Frid-Jimenez 2011)

For the purpose of this project, the most promising part of the citizen science, is the strategy that reposition individuals from consumers to data producers. Their statement is that "By empowering people to easily measure, report, and compare their own personal environment, a new citizen driven model of civic government can emerge, driven by these new networked-mobile- personal-“political artefacts”
Certainly the involvement of people in a process is one of the ways to engage them, and it is in the core of ideas like open innovation or living labs. But it is hard to argue that just getting data with their mobile phones implies a strong involvement. It might be during an early stage of the project where people are involved through design processes or workshops. But, if every mobile phone has a chip and just sends that information automatically to a server, does it mean any involvement?

But even though the relationship they make between civic involvement and data measuring is not always there, the way they did it, position the citizen science as a very valuable free time activity. Totally unproductive from the economical point of view but it involves learning, an interest for improving the community, public activities and common free time.

**TexTales and SMSlingshot.**

Exposing people’s opinions in all sorts of digital walls is one of the first ideas that everybody comes out when thinking about city, participation and interactivity. It is a genre on its own. Here I will compare two antagonist projects: TexTales and SMSlingshot. (Fischer et al. 2009; Ananny & Strohecker 2008)

SMSlingshot is an iconic device made of a mobile phone keyboard embedded into a wooden slingshot. People having this Slingshot can write SMS messages that will be thrown to the wall when it is used like a real slingshot. The creators “aim for claiming back urban space and give the inhabitants a tool for occupying urban screens”

From the purely interactive point of view, the concept seems great. It adds a physical interaction to the boring (and secret) act of sending an SMS. It becomes now something with its own value. It is an artifact made for performances and public presentations. People have to go to the venue, somebody will give them the Slingshot, they write the message and throw it to the wall where it will be projected using a beamer.

TexTales also plays with SMS and digital walls. In this case the goal is to “support multimodal dialogue among many participants in public places.”

Instead of just letting people send their messages, they built 4 different forums around TextTales where different profiles were invited to participate. Firstly they made a series of workshops with communities to find controversial issues within the neighborhood. During these workshops they created together the text and photographs to be exposed on the screens. Then they built the display interface with this content. People could send SMS messages related with the issues on the screen and the messages pop up in the screen in a “conversational way”
I said that these are two antagonistic projects and they are for two reasons. Firstly they come from different fields. TexTales is a work by two academics from the fields of “Internet&Society” and SMSlingshot comes from the mediaArt/mediaActivism field. This might in part explain the different level of success. While the SMSSlingshot is currently at the MoMA museum, texTales appears just in a few papers.

The second reason of the antagonism is the real impact, and here the TextTales project seems much more interesting. Firstly it engages different communities from the beginning, to build content around a series of "matters of concern” that are specific for a community. When a “product” is developed in this way, the assessment of the product shouldn’t include only the final result but the whole process, because it is in this process where the impact over the community starts.

Thanks to these workshops, the kind of messages and the discussions emerging around a TexTales screen are meaningful to the community, not the commonly useless “write whatever you want” approach.

On the other side, if we judge the SMSlingshot’s according to its “take the screens” goal, it is hard to see it as a successful product, but just as an exercise of style. They built an interesting Digital/physical object. It is a playful experience but not anything that left any footprint in the community. They go somewhere with their projectors, give the slingshot to some people, they have a good time writing messages and then they go back home. It is an artificial prop detached from any context that only fits in the "art as spectacle" paradigm. A piece that today is a well-known example of "activist" technologies just for the good decision of mimic an old slingshot. This, sadly, gives a clue about the importance of designing products not processes and aesthetic over results when it comes to make memorable works.

Street lab in Neukoln. Berlin

The last project to critic is not a service or product, as the previous ones, but an example of design as Infrastructure. It is strongly related with the experience of the Malmö neighbourhood living labs but even more related with this work because it is focused on IT technologies. It is easier to describe than the Malmö experience because it is well delimited on time and very focused on some activities.

This review is based on the paper “Collaborative potential: designing coexistence in urban context” (Bieling et al. 2010)

The “Street Lab” is physically a space opened in the Neukoln district in Berlin. Neukoln is a multicultural neighbourhood but quite open and under
a gentrification process: it has tons of immigrants but also students, creative classes, bars, clubs.

As an action research project, they say that their project is not bound to achieve a pre-defined result. The goal of the project was to explore local multicultural communities, with the theory being formulated after the event. During the months the lab was working, the activities involved the search for a local space, several co-design workshops combining technology with social issues: Embodiment or Interactions and Musical Interfaces [Workshop: Free Style Music], Aesthetics and Innovative Functionality [Workshop: Mobile Phone of your Dreams], Alternative and Augmentative Communication [Workshop: Disability-inspired Interaction].

Firstly, it is interesting to note the relationship and differences between product design and design research. What researchers “design” here is not a product for the people in Neukoln. They setup an infrastructure for themselves to learn things and for the participants to “design”.

As an output the researchers get some objects, which are the support and transmitters of the design knowledge produced. The participants, as an exchange, receive some kind of informal education and probably quite a lot of fun during the workshops.

This workshop, which, for the organizers is “just” a three months experiment inside a long process, for the participants, is a valuable service. They write that “more than 100 children from 10 different nationalities joined the StreetLab and engaged in a playful dialogue with the team of researchers.” It seems a great decision to set-up a local space in the neighbourhood and the experience shows the demand that these sorts of “alternative schools” might receive.

On the other side it would be interesting to see the expectations they created on participants as co-designers. Involving people in participative design process might be perceived as the first step towards designing something together. What was the mood when after three months they shut down the local space and removed the infrastructure that made possible the participation?
The Activities 1: Malmö
This chapter compiles the activities done within Malmö and framed in the Periphèria project. I joined the project as a “technical facilitator” for five months. I was not involved in any decision related with stakeholders or place selection, which were already decided before.

The main focus of the activities is the neighbourhood of Rosengård. Located in the eastern part of Malmö, has an area of 3.3 km2. The district is largely composed of high-rise buildings added during 60-70s. In the south you can find some villas and small houses. In the northern part cemetery, and in the northeast are industrial. When Rosengård was designed and built it was in an effort to build off an alarming lack of housing and to provide modern housing for the workforce, often through labour migration, that would keep the wheels running in the industrial city of Malmö.

The area is characterized by a large population of immigrants from other countries. Today, some fifty languages are spoken in the area and around 100 nationalities are represented. The population is heterogeneous in nature. The majority of the inhabitants have a foreign background, and 60% are born abroad while 26% are born in Sweden, but with both parents born outside of Sweden. The major ethnical groups have origin in Iraq, former Yugoslavia, Bosnia-Herzegovina, Lebanon and Poland. The large degree of young people born in Sweden, but with parents born in other countries, has to some extent created an image of a culture that is neither Swedish, nor foreign. For example the language of young people is often referred to as “Rosengård swedish”. It is also an area with many young people, 35% of the inhabitants are below 20 years.

Rosengård can easily be travelled to through public transportation or by a short bicycle ride. Rosengård is from this perspective centrally located. It can be said that Rosengård is not peripheral in a geographical sense. Still, it is very enclosed, not the least from a cultural perspective, and it can be really said that it is peripheral in relation to the rest of the city.

The main issues in summary are the following:

- social problems around fragmented groups of different origin, age and gender;
- economical problems with low average incomes leading to a sort of isolation of the district;
- bad reputation in local and national media with the results of feelings of being peripheral, marginalized and not wanting to stay in the area;
- many people do not want to go there and prefer other parts of the city, as well as many people wanting to move from the district to other parts of the city;
- low participation in public spheres and in communication with city municipality;
- fragmented interaction between groups of different origin, age and gender with the result of difficulties in joint efforts toward sustainable lifestyles.

There were many different motivations to choose this area within the periphèria project:

- It is interesting in its complexity, due to a fragmented population with a high diversity of national origins
- It exemplifies this diversity in a dense format, which makes it manageable and observable
- The characteristics can be shared with a lot of European cities, making the area a good candidate for achieving transferable results to other cities
- The fragmentation and an observed lack of integration to the rest of the city implies some clearly identifiable problems to work with
- There are lots of potential in the form of creative NGOs and skilled people being outside of the ordinary job market
- There are also several on-going initiatives from the municipality, creating a breeding ground for the intersection between city initiatives and social innovation

It has a huge degree of national focus, which makes changes in alternative policies probable.

**Exploring Rosengård.**

Rosengård is a well-studied context with many articles and many experiences from previous projects. So why doing a new research?

Texts written by previous researchers and results from previous experiences are a good contact with the field of study and can provide important insights, but from my personal experience it doesn't replace the need of the designer to do his own research. Even a superficial ethnography can provide experiences that complements the previous studies:

- It provides embodied “information” not just the summary but also an experience that combines verbal information together with visual stimulus
- It can provide first hand information that resonates with the designer interests.
- It might give the designer contact with people to keep working in the future

The designer’s main goal is usually to acquire insights with the potential of inspiring new designs well grounded in the context of the target users. For me this inspiration comes easier from an experience lived personally than
with a 3rd person reflection. It is not just the knowledge, but a contextual and embodied knowledge.

**A walk through Rosengård**

As a first activity I went for a walk with an RGRA collaborator, Christian. He grew up in Rosengård so he knows a lot about the neighbour and its social and spatial dynamics. The walk took around one hour and we visited many of the different districts inside Rosengård (Åpelgarden Krydgården Herrgården and Örtagarden)

During the walk I asked Christian to show me the different parts of the neighbourhood and specially spots where something special happens: People tend to gather, go shopping or do something special.

The urbanism of Rosengård seems to be inspired by modernist with tall buildings and big parks everywhere. It doesn’t provide an architectural feeling of oppression, even though there are strong differences among areas. As a summary some insights to think about:

![Rosengård Images]

**Malmö Vs Rosengård**

“When you are born in Rosengård you are not part of Malmö. Most of us don’t know anybody from outside until we are 15 or 16. Nobody from Malmö comes to Rosengård neither. It is ridiculous because it is so close to the center”

Many people from the center don’t like people from Rosengård. This “common enemy” makes Rosengård inhabitants feel they are part of a community.

**Life in Rosengård**

“-You don’t see many people staying outside now. What kids do in winter? -When the school ends, they go home. Maybe they go out to play football again and walk around the shopping mall and come back home. They always go in groups and always going from one place to another.”

“ People from here don’t feel it is dangerous to be on the street. You get used to see fightings. You just continue walking or try to stop it. If someone from Limhamn sees a fight he probably will go crazy, but not people from here.”
“A foreign family comes here, grow their kids and they stay here. But no 2nd generation immigrants live here. We all move outside. ”

**Casual talks**

During the project I maintained several conversations with people originally from Malmö or who have been in Malmö for a long period of time. The main goal was to compile personal opinions about Rosengård from people who don’t live there:

"I live next to Rosengård, it is just one street away but I think I’ve been only there once during the light festival. It is not for any special reason but why do I need to go there? I could buy cheap vegetables but I can also go to Möllevången for that. I think nobody has a reason to go there”

“ I live in a very cheap place. Have you heard about Rosengård? My place is even worse. Have you been there? Of course not, why should somebody go there? There is nothing to do”

“I find Malmö is a very segregated city, much more than Göteborg or Stockholm. It is weird the difference between the neighborhoods and how people from one, never go to another one”

It is interesting to see how jokes about Rosengård are present in conversations. Even newcomers to the city “know” that there is something wrong there and there is no reason to visit it. The prejudice lives as a meme traveling from person to person even though not many have even visited the place.

**Peripèteria, Malmö & “Unproductive cities”**

During these months I’ve been working with different agendas, and they explain, allow and constrains this work. The first agenda belongs to the Peripèteria project. The main task to work within has the title “Be seen be heard” and it is about collaborative media and give voice to the youths in Rosengård.

The second agenda is not one but many agendas: What stakeholders want to do within the project?

The third agenda is mine. Even though what I do shares part of the methodologies and goals with Peripèteria, they are not completely aligned. The idea of designing for degrowth, for creative leisure or unproductive citizens is not within the other two agendas.

This means that I have to follow the Peripèteria way of working and at the same time try to include content or experiments interesting for my own purposes.
This work has consisted in a series of workshops in order to collaboratively design urban technologies under the main slogan of “be seen & be heard”: Giving voice to young people around the city.

**Peripèria Workshop I**

The 21st of February the peripèria group at MEDEA organized a workshop with the other stakeholders RGRA and Do-Fi.

It was the first workshop for this project and we set these goals in order of importance:

- 1st: Motivate participants with examples to trigger their interest and engage them in the development.
- 2nd: Learn about them and their interests.
- 3nd: Get Ideas.

We expected between 10-20 people involved and agreed to be working around 3 hours with the stakeholders. To tackle these three goals within this time we proposed the following track:

- A first block of introduction aiming to know each other, explaining the project and getting their attention
- Discussion about the projects that the Malmö city is having in Rosengård. There are many people working there but what people think about this effort?
- Information about mobile phone patterns of use: A simple exercise where the participants had to write 3 things they did with a phone last week and 1 thing they wish they have done
- Hands on with different prototypes.
- Scenario creation. With templates and inspirational cards the participants have to write a scenario of use.

**Results**

Participation was quite below the expected, only 5 people showed up, but it turned out that they were quite interested and participative during the workshop.

Especially, the discussion exercise on what the city is doing for Rosengård was very intense. They said that they do not have high expectations on decision makers changing their life, they just want to enjoy but at the same time they want to achieve some impact with their own activities.
The exercise about mobile phones was meaningless. They say some examples but nothing interesting for us or for them. It was an individual exercise that somehow broke the rhythm of the workshop.

As a prototype I showed an early version of a collaborative jukebox for public spaces: a sound system whose music is chosen by the people around. So using a mobile webpage people around the soundsystem can search songs, add them to a collaborative playlist and vote.

A discussion of this prototype is on its own section later. But during the workshop was interesting to see that kids started to interact with it and being very participative giving opinions and different options. We again found how working with music related content is very useful to catch their attention.

To conclude we gave them the inspirational cards and they sat down in couples to draw some scenarios. During this exercise it turned out that they easily went into designing objects to fill a space (sofas, a stage) rather than thinking “digital”.

The Square Boombox is a outdoor speaker placed in a public area. The speaker creates a wireless network around, and through this network the dwellers in the area can choose the music with their mobile phones using a simple mobile web.

The playlist algorithm can change including voting system and different kinds of queues.

Currently the music source is Spotify, but other options like uploading music from the phone might be considered in the future.
Periphèria Workshop II

A month after the first workshop we decided to push the process with another workshop. At this point I had some sketches of things we could do:

- Something fuzzy about urban screens and participation.
- A storytelling app about Rosengård inhabitants: The hidden lives of Rosengård.

The hidden lives of Rosengård

During the research in Rosengård the question of “why would somebody visit that place” was always present. The architecture in Rosengård is not something that will attract people, nor the parks (Malmö is full of parks everywhere). But Rosengård has immaterial assets with incredible value.

As Christian told me during the visit, Rosengård has been the entry point to Sweden for many refugee families running away from every conflict in the world since the 70’s: Greece, Turkey, Kurdistan, Irak, Iran, Yugoslavia…

Probably many of those families have huge stories of suffering, political fights, wars. I’m sure many of them could be the script for a movie or a book. But they are in Rosengård and nobody knows about them.

This sketch is about a team of local people compiling interesting stories in videos and text and a locative media app to access those stories from the mobile phone when walking through Rosengård.

There are many aspects to think about. For instance how many families would be willing to share their stories? But it would be an interesting way to give visibility to the main asset in the neighbourhood: The people and their stories.
**Planning the workshop**

For this second workshop our goals were to:

- Engage the kids not as helpers but as co-creators.
- Take decisions about something to prototype.

The reflection I made was that, in order to engage them as co-creators we couldn’t go with our idea and ask them if they like it. But at the same time in order to take decisions we couldn't go with a blank sheet again to start thinking on what to do.

I took the middle path and proposed working to open ended technological infrastructures:

- What If we had a screen on the neighbourhood?
- What if we had a mobile phone app to reveal interesting things that are hidden in Rosengård

My assumption and, the rest agreed on that, was that successful approach was in the balance between not being too open to be able to define and too constrained to leave space for kids to appropriate the project.
Results

The workshop took place at the RGRA space in Möllevangen. Three of the attendants who came to the first workshop came again, together with another new kid. This time we decided to do it in English so I could participate too.

The space was not very well conditioned to do hands-in exercises: A coffee table surrounded by a group of sofas.

From the beginning they had the assumption that we wanted to organize an public event (a party) with technology, and we didn't find the right moment to bring up the exercises.

Even when we tried to move the conversation towards different issues their interests and the conversation always went back to music and events with music and barbeques.

So basically the session moved between conversations about two topics:

- An RGRA app, which might involve some kind of music production.
- A display where people can send "quotes".

But I didn’t see any a big enthusiasm in any of those.

Reflection

- The “paper exercises” I prepared to write and draw seems ok when preparing, but during the workshop with conversations it feels awkward to put some papers in the table and break the conversation to start writing.

- Related with this, it is worth to insist in the importance of physical space. When sitting around a small table it feels unnatural to start drawing and doing something else other than talk or listen. The space must be arranged according to the goals of the workshop and probably an arrangement where people are not sitting but stand.

- About the role of the interaction designer in this process: When the goal is doing a honest co-design process the designer doesn't design the product. We are designing artefacts to engage participants. Because we are interaction designers and not teachers or sociologists our way to engage stakeholders, is to design technology related artefacts that help stakeholders to envision scenarios and opportunities beyond their current daily life.

This resonates with the concept of metadesign referenced before. The stakeholders are our final users and a successful design is the one that inspires them to imagine. At this stage none of the design workshop have achieved this.
An additional issue is the lack of "product expectations" about what we are doing. If the starting point is "We have a giant display in Rosengård, let’s do a game for it" (like I had in the Madrid workshop we'll see later) it is easy to obtain results in a short period of time. Clear goals and clear limits on the things that can be done (even though the amount of games that can be designed are infinite) In our case the borders of the design space are fuzzy. We have different goals, we don’t have a clear set of technologies and we are working with a stakeholder whose expectations are not very clear.

In order to successfully develop something in the future is it necessary to reduce the level of uncertainty in this design space: Decide a technology, to decide what RGRA will obtain, or decide what do we want to achieve. Even though it is a restriction at the beginning, there are opportunities to expand the design space again in next iterations.

**Periphèria Workshop III**

To prepare the 3rd workshop we made two different prototypes and we decided to focus on working with them. A sort of technology as the “infrastructure for the workshop”.

My main task was to prototype a platform based on locative media. I chose locative media because it has a connection with the city and because it is just a platform: locative media could be about local stories, about artists, about messages, history… The goal for this exercise was to
make the participants experience what locative media is. And then imagine together in which ways it could be meaningful for them in their context.

The prototype was quickly made using web technologies: Javascript + HTML. These technologies are perhaps not the best ones for a real locative media app but they are fast to code and works in many devices. Great for fast prototyping especially together with some external libraries. In this case I used jQuery mobile to code the interface of the application and as a backend "cartodb.com" which is a service that let’s you easily create database tables with geographical information and then create maps and do simple queries using Javascript to retrieve the information depending on the position.

In this case I placed different kind of media around the Medea lab (where the workshop was taking place). People could see the different elements in the map but they could only access to the content when they were near the elements (the bottom element in the image).

Among the media I used:

- A photograph of the “neighbourhood” 30 years ago when it was a shipyard.
- A song by one of the RGRA members who came to the previous workshop.
- Sound loops, and as a provocation:
  - Erotic photographs
  - Anti-islam claims.

Which covered some different uses: from learning about the history of the place, to spread the local culture. to just leave annoying messages for the rest.

The other exercise was made by the people from Do-Fi and consisted on a SMS service together with a “photo booth” called “Gigantomaten”. Participants go to a corner where the computer is, they take a photograph
using a simple photo booth app and then their photograph is projected in a big screen. People can send SMS that appears around the photograph at the screen.

Results

We were a big group this time, 7 participants from RGRA 2 from Do-fi and 3 from Medea. In this workshop, having prototypes to play with and not just talk made a big difference (as expected). From the beginning they interacted more and seemed to enjoy the activity.

The locative media app made its work. We went outside, divided in groups and walk around trying to find the spots. Then we went inside and talked about it. In the discussion they avoided the references to the sex picture and the anti-islam image. Probably it wasn’t a big deal for them. On the other side they did mention several times the song made by one of them.

Nevertheless the core of the conversation went through commercial utilities they found to this service: A sort of game where people collect points and get free stuff at mcdonalds or advertisement in expensive corners. They said that they would be keen on creating content for the platform but their ideas went again and again towards “consuming” patterns.

The gigantomaten was big success. Participants took several photographs with funny faces and sent jokes in the Sms for a while. It is very simple but it put them in the center of the action. They are the content and their photographs receive comments. And as we know through Facebook, everybody loves receiving comments and getting other’s people attention.

At the end we went to the skate park to test the boombox (see next section) and used a simple tool to throw “virtual tomatoes” to politicians.

It seemed like everybody was having fun and I think that’s the most important part in what concerns to the statements of this project: Do things together and have fun while participating the design of technologies for their leisure time.
Some thoughts about my work with RGRA within Periphèria

Working within this complex combination of agendas and schedules has revealed as a difficult task. Meetings and workshops are very separated on time, and the need of engaging the different stakeholders made everything hard to move on. The process is not intensive but extensive in time, which I think it is not good to come up with prototypes. Adults have many different things going on, but youngsters may feel discouraged to attend to several meetings and not receiving news or perceiving progress.

Beyond these “practical” considerations, and in a different level, I found a quite strong contradiction between the kids “real world” and the notion of empowering the “unproductive” which is part of this project. It is somehow cynical to talk about consumerism and productivism problems to people from a neighbourhood were unemployment rates are around 50%. They want to be like the rest of the Swedes, have a job, a family and enjoy a good domestic economy. To be able to think in questions like environmental problems or value changes, people need to have their basic needs covered. Or with different words: the change of values must come together with economic changes. I’m fully aware of this, but the economical issues are beyond the scope this work.

Even though we were working with quite engaged kids some of them with strong political opinions and involved in music creation, they are teenagers and they just want to hang out, organize parties meet girls. That’s cool and it is what they should do, but it would be interesting to move part of those free time activities towards the public instead of inside their ordinary more closed surroundings. Their free time, their activities are their way of participating in the city.

On the other side, during the different exercises I observed a common pattern in their behaviour, which is to adopt the position of the “consumer”. When we asked them to sketch or when they gave their opinions they firstly came up with situations were they “consume” the service. At this stage of the participative process an interesting next move would be to push them out of this role.

When working with teenagers it doesn’t make sense to talk about productivism, because the idleness is already a main part of their daily life: they don’t have a job. It makes more sense to focus on the transition from the private leisure to the public leisure and encourage them to position themselves not only as consumers within the context of the city, but as main actors in the life of their neighbourhoods.

Until now, for most of the discussions and workshops we’ve been thinking in co-creation as people taking part in the developing. But co-creation is
also to explore how the devices they can be used and especially how they create new possibilities for them.

The following service can be an example of this. It was used during the workshops but it has been developed independently in a “user centered” way. There, if co-creation happens, it will be during the use time, not during the formal design stage.

**Product 1: The square Boombox**

During the 80’s two electronic devices transformed the way we listen to music. It is a popular thought, that the invention of the “walkman” made the experience of listening music more intimate and personal. On the other side, the (in)famous BoomBox made public the domestic experience of listening to music.

The modern mobile phone and the portable media players integrate both sides in the same device. With headphones they are personal devices, with their internal speakers they are public broadcast systems.

The behaviour of listening music with the mobile phone speakers has been widely adopted by teenagers. It is also potentially disturbing for the people around and in some contexts it is considered “bad manners”.

During 2010, I worked with the RGRA organization in one of my projects during the master course. We had to promote a new young radio using the BluePromo boxes (a device to spread Bluetooth messages). While learning about teenagers’ behaviours a kid said that:

> A place for gathering is the McDonald at Gustaf Adolf. People go there and stay outside playing music with their mobile phones.

For those kids there is a need of showing their music in public and there is a need of gathering together and creating an atmosphere out of the clubs, where many of them still cannot go.

This activity fits perfectly in the unproductive city context: Going somewhere just to be there and listening to music together. Like a music club but without the need of consuming.

**Vision of the product**

The *Square Boombox* is a sound system placed in a public space like a park or a square. The sound system is enhanced by a public wireless network and software that lets the people around to control the sound system.
From this base concept it is possible to take many different decisions that will create a different environment around the boombox. A couple of examples:

The available music might come from a streaming service like Spotify or from people around. In the first case the music will probably be more standard and well known. The second case will allow people to play what they have on their mobile phones. This, in one side, supports the idea of appropriation and technology as infrastructure. New uses can emerge like small bands playing their own music to let everybody know their latest songs or people using the service to broadcast political messages. On the other side this extra level of freedom can also transform the service into something that people don’t enjoy because it is full of jokes, spam or any other content that the people around doesn’t enjoy.

Another decision, related with the previous one, is how the playlist is made. A simple FIFO list gives a chance to everyone around to play their music. If a voting system is implemented, the rest can vote if they like the song or not moving it up and down the playlist. This second one is most suitable for a subculture to take over the place, imposing always their taste. The first one can possibly create a place where everyone participates but nobody is really happy with it.

It might potentially be an example on how a code algorithm can shape a physical community, not just a legal community.

**Prototype I: Webapps for casual interaction**

The first prototype was ready for the workshop that took place at Medea with the RGRA stakeholders (February)

The prototype was a working artefact made by:

- A computer connected to a speaker system
- A private wireless network
- A playlist software connected to Spotify.
- A mobile phone web interface.

People were able to search a song through their mobile phones just by entering a web address and the song was played in the central computer. And also they could move the songs up/down in the playlist by voting like/don’t like.

Internally the software is made by different pieces of already made free software assembled together.
These pieces are:

- **Spotify** as a music library
- **SpotifyLib** is the official Spotify library. It offers an API to the basic Spotify functions: Search, playlists, play... https://developer.spotify.com/
- **Mopidy** is a Music Playlist Daemon Server (MPD). It is a piece of software which in one side integrates the spotify Library and in the other side accepts MPD commands, which is a protocol to manage playlists.
- The **MPD WebAMP** offers a webInterface to the MPD protocol.

I put all these pieces together and I then I used WebAMP app as a base for my own application: Instead of just offering a traditional web, I transformed the WebAMP Frontend into a jQuery mobile webpage. jQuery mobile is a javascript based framework to write HTML pages ready to be used on all kinds of mobile devices. So instead of creating a native phone app for Android or iPhone I made a Mobile HTML webApp. This solution is not only faster to prototype but has deep implications for the user experience.

Native mobile phone apps offer many features not available in webApps. But they are platform specific and especially they need to be installed. This has deep connotations when working in a “casual” context like a street in the city. In this case users will find a service they are not looking for. To engage them for first time it is necessary to remove as much as possible the barriers to interact. If the service is accessible through a mobile app, the user will need to go to their appstore download and open it for first time before even knowing what exactly it is. This, in most cases means too much effort. Meanwhile, using a webapp the user just need to open their browser. So from this point of view, even if mobile apps can offer a better “user experience” in terms of speed of use or appearance, in the context of a casual street use, a native app doesn’t work.
Prototype: Hardware

The Mopidy server and the mpd WebAmp run in the same machine, ideally a Linux computer. The ideal setup would need a small computer like the raspberryPi. It is an inexpensive computer-on-a-board which can run Linux. As inexpensive as 35$.

RaspberryPi has the potential of leading a new revolution for makers, and the DiY community, in a similar way as Arduino did before. Unfortunately it is a new product under production and at this moment the demand is much higher than the offer, I’ve been on queue for some months and I didn’t receive mine.

So instead I will use a old computer with Linux. It is not suitable for “outdoor” use but it is enough for a quick prototype.
On Workshops & High fidelity prototypes.

I chose to make a high fidelity prototype because, firstly I wanted to know if the idea I had in mind was technically feasible. Secondly I wanted the people to interact with the service and play their own music.

When making prototypes and showing the prototypes to people it is crucial to determine how finished the prototype should be. Buxton argues that the “sketch” is an exploratory artefacts and showing too finished sketches to users will make them afraid of giving opinions. (Buxton 2007)

In my case I wasn’t exploring the design space to come up with new ideas. I already knew which service I wanted to build and just needed some input and indications about the best way to do it.

During the workshop I wanted to see people reactions to it. It was very engaging that participants could search and play the music they wanted. They discussed deeply about where to place it and how to improve it. In general it was a quite useful even when nobody challenged the design, (which wasn’t really expected)

The line between unfinished-quick-and-dirty and usable prototypes is hard to draw. Personally I can code and create high-tech prototypes fairly easy and sometimes fast. Quite often my objective is not just to test a concept but also to fully make it. So the prototype is not only a way to explore the “design space” but also the “technical space” or how easy/hard is it to produce the real product and which 3rd party tools do I need.

JukeBox at The skate park

The second iteration of the prototype has been made for a real context: The skate park “Stäapelbaddsparken”.

The park is one of the most well-known skateparks in Sweden. It is managed by the Malmö city council and the skate organization Bryggeriet.
the summer Bryggeriet manages a small kiosk next to the park with speakers.

After approaching them, I arranged a meeting with the city council employee in charge of managing the activities for the park. He was planning to install something similar based on SMS and he let me to test the jukebox there for a couple of weeks. The main difference from the previous prototype was a default background music: If nobody adds anything to the playlist, it still has to play something from a default playlist.

I did a new prototype iteration trying to achieve:

- **Technical goals:**
  - A stable behaviour during a long period of time.
  - Remote control and logs to see who and how people use it.
- **Usability goals:**
  - A better interface: Working on android and iPhone at least.
  - An easy way to connect and access to the web interface.
- **Participative goals:**
  - A name option to attach a name/message to the song.
  - A working voting system.
- **Communication goals:** how to make people aware of the “invisible new service”

The new prototype’s hardware consists of a Linux laptop computer connected to Internet through 3G and connected to a wireless router to distribute the signal. The computer can be remotely monitored to operate the music service.

The software includes a voting system (without restrictions) an option to submit the name and a connection to the last.fm service to expose the music people choose. The visual design was not implemented and it used the using the standard jQuery mobile theme (the library I used for this development)

To make the new service known, I ask a graphic designer friend to design me a
poster with the instructions. Then pasted some posters at the skatepark, in the zone around the kiosk with the router. The experiment was designed as a long term test, expecting people to tell each others about the service without much more marketing.

Results

After fixing some important bugs the first days the service worked continuously without any major problems. Important practical issues:

- The impact of posters is very limited. Even though the content is eye-catchy, it was invisible for most of the people walking around or even when they saw it they didn’t read the test or act after.
- The wifi signal was very weak when the kiosk was closed. The kiosk is a metal “boat container” and it is almost a perfect “faraday cage”. The range decreases from 40 meters to 5 meters in this situation.
- The screen design needs big improvements. When people are using an app (web app in this case) for a completely new and unexpected service, there is a lot of space for “usability” research in the “old way”. In such a small screen every detail is important to communicate how the service works. Details like voting system, which kind of search could people do are on the screen but look invisible to people with the current interface design.

Because the poster solution was not working I decided to do “direct marketing”. I searched for groups of kids taking a rest and talked with them about the service. Despite of the “usability problems” most of them found the service amusing. One said that it is very cool to have nice music when skating but usually “the music here is shit”.

![Using the Boombox](image_url)
After reviewing the server logs, I saw that they kept using the service the whole afternoon acting as the DJs of the park: Because not many knew about the service the ones who knew felt “in charge”.

The days before this “direct marketing” nobody used the boombox but after that afternoon I registered some users everyday. The pattern was always similar: once a user logged in, he/she kept adding music for a while (1-2 hours)

The ones who found about the voting system used it as a way to put their songs always above the rest. I also observed some “bad usages”: I saw in the logs one user adding music for a couple of hours and then just before stopping he added 3 songs by “Justin Bieber”.

During the third workshop with RGRA we also showed them the jukebox. I again found some issues understanding the app but the most interesting thing was to see how they behave differently when we tested the app during the workshop and outside in the “real environment”. In this case the “performative aspects” appears and they don’t just play music for themselves, but wants their music to be played and wants that the people around know they are playing the current song. The make signs to each others, clap or dance: it is “their song”.

The software, could support these kinds of expressions with features like adding photographs or messages to the songs, sending messages to other users or creating a visual representation of the playlist in the space. In this way perhaps the service can be more useful to make connections between people.

Furthermore other improvements for the prototype could be:

- A better connection method: Better wifi range and automatic URL. Currently people have to connect to the wireless and manually enter a web address. It is technically possible to launch a webpage when connecting to the network like some hotspots do in public places like airports.
- Because not many people interacted with the playlist at the same time I couldn’t clearly observe the effects of voting and censorship during this experiment. But according to the interactions during the workshop with RGRA, it is important to include some restrictions on voting; otherwise it is a war for putting their own song at the top.
- Clear and nicer interface: faster response, search for songs and not just bands.

**Conclusion**

There is something “cool” about being able to play music for others. It is a way of expression and communication. People who found and used the
prototype keep engaged and the RGRA members who attended to the first workshop asked again about it later.

From this experience it is important to notice the big differences between the “public experiments” and the workshop experiments. Even though both are important there are many issues that only appears during the experience in real contexts.

For the “unproductive” goals of this project the service has a big potential to support new values for the free time in public places. But in further explorations it is important to stress the collaborative and social features: as a self-expression tool, as a way to interact with unknown people, as a platform for in-place music debate, music sharing or music discovering.
THE ACTIVITIES 2: MADRID
Workshop about public games and urban screens

To play is one of the best activities we can engage. It is fun, we can learn things while we play, we can play with more people and we can do it in many different ways. Digital technology has change the way we play at home and videogames are today a product as common as TV or movie players.

Moreover these digital games are recently jumping from the computer screen to the streets. For this project this new scenario offer a good opportunities to enhance public spaces: from simply spending time playing together to even create content for this games. This is mainly what I explore in this section, the result of a workshop organized with the Medialab-Prado in Madrid.

Medialab-Prado is a program of the Department of Arts of the City Council of Madrid, aimed at the production, research, and dissemination of digital culture and of the area where art, science, technology, and society intersect. Medialab-Prado works as an open space where activities are organized by their crew and also by the community around the space. The range of things happening there, move between production workshops to conferences to courses.

Among the infrastructures they offer, the building has a giant media-screen made by more than 2600 leds distributed around a 15x10m lateral facade. The facade has experimental purposes and has been used to show from generative art to street video-games.

I’ve been part of the Medialab community during the last years and in 2011 I developed a game called city Fireflies together with my friend and assiduous teammate Victor Diaz.

CityFireflies

The concept of City Fireflies was created during a 48H Global Hackathlon known as “Game Jam” and it was fully developed during the spring and summer of 2011.

Since October 2011, it has been in permanent exhibition and became a great success in terms of public and media exposure appearing in international web magazines such as Fastcodesign or national newspaper such as “elPais”

The successful element was the technology we designed to interact with public displays. Instead of using just body movements or mobile phone apps we made it able to recognize the light emitted by mobile phone screens.(Galán & Díaz 2011) With their mobile phone as an “eraser” players
had to remove the enemies on the screen by running through the square. On fastcodesign they defined it as:

*It’s the perfect solution: No apps to install or procedures to explain. City Fireflies simply directs players to point their phones at the giant game screen, and start moving around. The instant visual feedback is clear: The phone becomes your “net” for catching and removing the digital avatars onscreen [...] It’s a beautifully elegant bit of interaction design and a dastardly smart engineering hack at the same time. (Pavlus 2011)*

This piece was developed before this project started and it can be seen as the seed of all of this. Urban displays are expanding everywhere. We can see it as a new technological infrastructure and what it is used for? mostly advertisement, from ugly commercial videos to interactive ads. A step further in the privatization of public spaces. The city as a giant TV to encourage consuming.

But urban displays, as most digital infrastructures, also open up many new uses still to discover. In this case the screen is located in the nearby of one of the most touristy areas in Madrid which is as well an area inhabited mainly by locals and with lot of transit at night due to the nightlife atmosphere but it is also the refuge of homeless during night. This eclectic space is used and transited by many dwellers but not “owned” by any group. It is easy to see a bunch of homeless sleeping on cardboards in one part of the square and a group of posh teenagers drinking before going into the disco. Everything under a 1,000,000 € LED Screen.
In our case through a game we were claiming the use of the squares as spaces for playing and gathering. To the former groups of people the screen and its content added the people going there to play.

This success provided us some reputation and the possibility to develop similar projects. In order to create more content for the screen we agreed with the Medialab to run a workshop about games for public spaces.

**Workshop design**

The goal of the workshop was to engage several groups of people into the creation of games for the screen. From this perspective the workshop was a kick-off weekend to gather people and engage them in the production of content.

We designed the workshop with the following problems in mind:

- According to our experience, Medialab participants tend to be informal when joining and leaving the events. People don’t apply for the workshops, just show up, and leave when they want. We wanted to create working groups for the two days so we took some decisions to involve people more than the usually do.
- The programmer syndrome. In this kind of workshop there is usually a lack of people with technical skills. It is usually a problem that there are too many architects or theorists and nobody to code.

Our list of strategies to fight these issues included:

- Provide a full detailed schedule in advance
- Design a customized beautiful website for the event (http://uncoded.es/biggames) to make it look more “serious”
- Ask people for a short bio before joining. We wanted to make the admitted participant think that we chose them because of their bio.
- Ask for special kinds of profiles: Designers and programmers
- Use the qualities of the huge screen as a motivation: At the end of the first day the participants should have something on the screen because whatever you put on the screen looks great.
- Avoid passive behaviour on participants and involve them from the beginning.

This was translated on the following schedule:

**Day 1.**

1. Presentation
2. Theory and inspiration. Learning how to design for public screens discussing canonical or interesting examples: Ways of interaction,
players Vs audience, performative aspects, topics, diversity of contexts and screens.

3. Experience the technology. With everybody sitting on the square, in front of the screen we showed participants how the screen works and how different media look there.

4. Design exercise. We made groups with a mixture of technical profiles and non-technical profiles and gave every group a set of 5 A3 paper to fill with the different stages of the game:
   a. Brainstorming sheet
   b. Choose a game: What people see when they see the screen for first time
   c. How do you engage the people to start playing
   d. How players play?
   e. How do you motivate people to keep playing

5. Prototype one screen design for each one of these last four steps described above.

6. Bodystorming: Project each group’s design at the screen and interact with it as it was working.

Day 2:
- Discuss the sketches with the rest of the groups
- Discuss more 3rd party examples which could add something else
- Prototype.

**Results and reflections**

In the context of the unproductive cities the workshop closes the circle opened with “CityFireflies”. Firstly we created a game just relying on ourselves, creating a “technology-as-an-artpiece” installation. Then, with the insights we learned from this experience we made a workshop to teach to the Medialab community the basic knowledge they need to start creating their own games for the screen. We moved from “creating a game for users’ leisure time” to “user’s spend their leisure time creating a game” Both are the perspectives needed for the unproductive city concept: Enjoy the city and enjoy creating something for the city together with other neighbours.

The workshop worked very well. We closed the application form after receiving 25 applications, but more people came to ask the first day and we were a group of 30 people.

More than 50% had technical skills and only 3 people didn’t come from Friday to Saturday. Everyone was involved from the beginning in the discussions and the groups were very participative.
More than 7 prototypes were written during the workshop using “Processing” as a computer language. The prototypes combined working features with other features that were simulated.

One question that remains unanswered workshop after workshop is how to have people with and without technical skills working together.

Our goal was to create different kinds of prototypes according to the different skills within the group. But technical people insisted on coding. We think in prototypes as “exploratory artefacts” but they thought as prototypes as “the first version of a game”

The problem with this approach appears when the basic idea is more or less clear and the technical people start coding. From that moment, what other people do? Sometimes they do the graphic design, even if they are not specialists, or take photographs or write documentation, or in the worst case they just read their facebook.

Creating interactive products always need some degree of programming skills, and these skills are not easy to get. Is it possible to have both kinds of profiles working at the same time or there will always be a stage were coders code while non-coders watch? How to convince coders that a prototype is better if it captures the experience they are trying to achieve rather than if it works without human intervention?
And also from the other point of view, it is important that “creative profiles” or “common people” understand that coders are not there just to do whatever they invent and that they themselves can also prototype in low fidelity. It is in the balance between these two perspectives where the benefits of the real multidisciplinarity are.
Technologies for public assemblies

In the spring of 2011 the Spanish 15M movement took the streets with a big amount of political demands and complaints. The movement became famous for its defence of the nonviolence protests, for camping on squares and also for using the public assemblies as the way to take decisions.

Assemblies

When people occupied “Puerta del Sol” (the central square in Madrid) they started to take decisions using assemblies. Quickly this model became a symbol of the movement as well as the gestures that people used to vote in the assemblies. These gestures come from the deaf people language and were very useful in a situation where hundreds of people were listening and talking together. Raising the two arms and shake them means “I agree”. To raise the arms and cross them mean: I don’t agree at all.

The central assembly at SOL was too big to be useful so they decided to make smaller assemblies in the different neighbourhoods.

The movement kept being successful in different demonstration from May to November but during the winter it became less important. The reasons behind the uprising and fall go beyond the scope of this report but it is important to remark that the occupation of the public space was not only
a way to be listened but a statement: The city is not only for shopping and advertising we have the right to use the squares to talk with each other.

The police and politicians didn’t think the same and the conflicts have been continuous.

**15fM**

The unproductive city is a city full of meetings. It doesn’t matter if the assembly is able to take decisions or not. Assemblies can work just as a meeting point, an encounter to listen about other people lives and what they think about how the world works and how to improve it.

The act of occupying a square to host meetings has strong symbolic meaning for a movement that reclaims a better democracy. It reminds us the Greek “agora” and the traditional use of the square as a place of meeting. But the squares are not designed to celebrate large meetings. It is a fact. People has to sit on the floor and when more than 100 people are around it is quite hard to listen.

This prototype explores a different way of sound infrastructure. Because protests are against the government, the government won’t provide the infrastructure to change squares into “assembly squares” Instead a portable and “guerrilla like” technology is needed.

15fM is an FM transmitter embedded into a microphone plastic box. It is based on the fact that many mobile phones currently have FM radios. Why not using the FM radios to receive the voice of who is currently talking?

**The design**

This situation requires a design that achieves these specifications:

- Portable and non depending on external power sources
- No setup, turn it on and start talking
- Clear voice 100 meters around.
- Cheap. Every Assembly should afford one
- Easy to build: Not only for geeks.
- Easy frequency tuning.
- No shift of frequency during operation

So it is basically a DIY transmitter easy to use and build. Achieving all these features is a problem of engineering more than a problem of design. For the first prototype I decided to focus on the first features, which are less dependent on fine-tuning technical changes, against the two last ones.
To start I thought about commercial FM transmitters. It is easy to find them. They are used to create a personal FM radio from your mp3 player so you can receive the music in the radio car. But I found that the range was too short, only about 1 or 2 meters.

After some research on DIY radio, I found many different designs, from the very simple ones to the ones with tons of different components. These second kind of chips shows better frequency stability and a higher range but it is not suitable for low budgets and low electronic skills.

I took a simple electronic design made by a microphone, a simple two-stage amplifier and a FM oscillator made by a LC circuit. This kind of circuit, with some variations, is sold as a DIY kit and as an already made board with a total cost of 100-130 SEK.

I chose this option for easy prototype setup and also because in case of massive success it will be easy to distribute it even to assemblies with no electronic skills.
Feedback I

I sent the previous sketch to the “hackers” mailist of the 15m movements. This group is mainly dedicated to maintain the online infrastructure: blogs, wikis, domains, servers: the movement IT crowd.

I asked for strong assemblies to test it while I was in Madrid. Even though I received some emails asking for a transmitter to test it themselves, nobody told me where in Madrid I could go to test it.

I sent the sketches to three people I knew where very involved in the movement a year ago and they told me:

- The idea is interesting and helpful
- The problem of communication on big street meetings existed
- It might be useful in the future but not now because the assemblies are very small.

I also show the prototype working to two people who took part in the demonstrations and they also found it potentially useful. One suggested that with a stronger transmitter we could use the same technology to boycott and insert messages above commercial radio station frequencies.

During this first testing I found many technical problems:

- Frequency is selected moving a potentiometer with a small screwdriver. It is hard to find which the frequency is.
• Big cities like Madrid have most of the FM frequency space taken by commercial radio stations. To have the 15fM working better, it has to be tuned in a free frequency.
• The range radius is around 50m
• Frequency shifts easily when somebody touch the board or the wire antenna.
• It was physically awkward to use because it was just a board into a plastic box.

**Prototype II**

For this second prototype I used the same board but tried to solve problems:

• Area range: By using a real antenna not a wire antenna.
• Improve the physical shape of the transmitter according to the use.
• Remove the frequency shifts.

Even though tuning and finding the right frequency is not quick, it can be done before the meeting and doesn’t need to be changed. But on the other side frequency shifting is a horrible bug. It means that people listening to the speech would lose the signal because it moved to another frequency.

Briefly this frequency shifting has to do with:

• Parasite capacitances inducted in the LC oscillator in the circuit. This might happen when somebody touches the circuit or the antenna
• Interferences
• Changes in the antenna length or position.

With these issues in mind I made a second prototype with these new elements:

• A physical enclosure
• A rigid antenna to increase range and make it easier to move and install.
• Button to turn it on/off
• A metal enclosure for the chip to reduce frequency shifting

In this sketch I show two different objects to embed the radio Tx into.
I wanted to use an already made object easy to find in stores or ideally in second hand stores to make a fast prototype. Unfortunately I couldn’t find any microphone big enough to install the electronic chip inside. Instead I found another, a reading lamp. The shape resembles to the old table microphones with space inside the base to place the chip and battery.

In this prototype the frequency shifting was smaller but still exist. The base of the lamp is not fully made of metal, so it doesn’t isolate completely the interferences.

Furthermore the shape of the lamp it is good to be used over a table, but not to so good to be used in assemblies where it should go through many different people.

It wasn’t possible to test this prototype in Spain. But another iteration must continue to make it smaller and remove the frequency stability to make real tests within big assemblies.

**Final Comments**

This prototype has been made in a completely different way to the rest of experiments described before. Instead of approaching an external group of people to design something together, in someway I designed the 15fM for me and just by me. I went to the assemblies and the protests. There I observed a problem by myself and I came up with an idea to solve it. I built and tested it briefly as any other member of the movement could have done. Possibly the simplest and the most primitive form of “design”: To find a problem in your own context and figure out an idea to solve it.
Furthermore, this is an artefact not aimed to encourage new behaviours or uses of public spaces but solve a practical problem on how some people are using these public spaces. It is simply an example of user focus design where I am potentially one of the users.

This lack of external participation can have some important implications in order to continue with the development. If in further iterations beyond this course, I solve the technical problems that the prototype have now, how the movement would receive the device?

This is just a hypothesis but probably it could be seen as something “external”. In a movement without leaders where new ideas came up from the anonymous crowd, this is not about selling an already made product to the assemblies with a design signature in the box. There must be a process of appropriation in order to have a community willing to use it. Perhaps a good approach for the future would be to contact with the hackers groups connected with the movement and make a series of workshops intended to produce transmitters for the different assemblies.
The role of the interaction designer
After reading some articles about “design thinking” one might feel tempted to believe that design is the solution to all the wicked problems, and to replace all decision makers with designers loaded with tons of post-its. Well, probably design won’t save the world. But still, designers inclined to work with social problems can contribute with some special skills and mindsets to the wicked problems of our time. In this chapter I try to describe which can be those contributions according to the experience gained during this project.

Creating changes on communities is something that requires a tremendous effort and the involvement of many people. Let’s imagine a project that creates some kind of storytelling in a neighbourhood using mobile phones, like “the hidden lives of Rosengård”. The final goal is to enhance the feeling of community. To have the chance to succeed, different skills and groups of people need to be involved:

- A local group of people involved in finding the stories and recording them
- A media team who take the information and make good videos with them.
- A platform to store and distribute
- A software to access it
- Promotion
- Somebody who evaluates the result.

Is the interaction designer responsible for all of this? These steps present different challenges. It is a multidisciplinary approach and wouldn’t be fair to give all the credits and complains to the interaction designer. Where can the interaction designer contribute? An encyclopaedic definition of interaction design is:

”Interaction design is about shaping digital things for people’s use” (Löwgren 2008)

Even this apparently neutral definition is not completely acknowledged. I respect other definitions too, but for me, technology is linked to interaction design. And from this definition I make a starting statement:

“As an Interaction designer I design digital things for people’s use.”

Digital technology is (of course!) not the solution for all the problems and other definitions could be argued for, but my personal stance is to take responsibility for the use and design of digital media artefacts.

Being interaction design a multidisciplinary field, there are different roles to adopt because there are many kinds of interaction designers. Within this borders of “designing the digital” Löwgren & Stolterman (Löwgren & Stolterman 2004) write about three kinds of profiles in Interaction Design:
The computer expert, limits himself to the technical issues and leave the assessment and ideation for the stakeholders.

The socio-technical expert master technical as well as socially oriented methods.

The political experts argue that design work is political in the sense that it is never neutral because it is always an intervention in a relationship between powers.

This third role is related with the work done in the Medea living labs and the theories of design as infrastructuring.

"Infrastructuring can be seen as an ongoing process and should not be seen as being delimited to a design project phase in the development of a freestanding system. Infrastructuring entangles and intertwines potentially controversial “a priori infrastructure activities” (like selection, design, development, deployment, and enactment), with “everyday design activities in actual use” (like mediation, interpretation and articulation), as well as “design in use” (like adaptation, appropriation, tailoring, re-design and maintenance)” (Björgvinsson et al. 2010)

The work I’ve been doing here belongs to this third level too. The penetration of technologies in cities is not a natural happening. It has implications related with supporting the current social system, it might enhance some kind of central control etc... In my work I assume this political implication of every work we do and make it clear.

Anyhow, being aware of these issues doesn’t define a role in the design process. Personally, I usually position myself in the middle point, a designer which masters the “digital material” but also the social design methods.

This kind of interaction designer has skills to offer which goes beyond infrastructuring. I give three main tasks to interaction designers who aim to contribute to “solve” a wicked social problem:

- Exploration & Sketching
- Prototype and experience design.
- Working together

**Exploration & Sketching**

The act of exploring solutions through sketching is in the core of the design activity (Buxton 2007). Designers understand problems while looking for solutions. Wicked problems specially cannot be fully described even after many attempts to solve them. Interaction designers can engage people not familiarized with this approach into an exploration process where they use technology to target the issues they find important.
**Prototype & Experience design**

These strange moments we live, surrounded by the socio-economical and the ecological crises are times of change. Philosophers, thinkers, economists, sociologists are among the people thinking and exposing alternatives. Those alternatives barely transcend the academic and intellectual circles and the debate between people and politicians is reduced to vague promises about what can be done in the next few years, something beyond that is usually attacked as utopian.

We need to jump the gap between the ideas and the people and hence the importance of prototyping.

Designers, through these prototypes learn about the interaction between people and the artefact. But the “testing” users also understand and experience how the “the world” might be changed with the artefact.

During a participative design process, it is too easy to get stuck on what we have around around. The mind cannot jump out of the borders of what we are used to do. A good prototype transports the stakeholders out of these borders, from where they understand how it might be to incorporate the prototype to their context and to think in a different way.

Disciplines such as social sciences and economics write and discuss. Political artists traditionally are focused on raising awareness of problems or attacking “the system” through their work. As designers we can go a step beyond, and not just describe or criticise but help people understand and build alternatives through the experience.

**Working together**

It usually happens that people without technical skills find difficult to think in terms of what technology allows. On the other side, very high-tech minds tend to think in implementations not in what we need. As Interaction designers we combine knowledge in technology and some sort of social skills. During the workshop in Madrid, we tried to work as a bridge, teaching the non-techies how to prototype and teaching the techies how to think more “socially”.

The role I took within the Periphèria group in Malmö –“technology facilitator” responsible for “Monitors the ongoing technology development within the Periphèria project and introduces relevant technologies to the community” - is also part of this “bridging” task. The task of inspiring people with the possibilities and the different ways of using digital technologies, meaningful and useful for their own goals and claims. A bridge between what they perceive as possible within their knowledge of the technology and what might be possible.
To conclude this section I’d like to quote an article by John Thackara, not about interaction designers but designers in general. It is a response to the question of where are the design opportunities in a scenario where the decline of the industrial growth economy is unavoidable.

[...] *In a curious way, the designer’s innate drive to do something, when confronted by a challenge, is a healthy response to the end of industrial civilisation.*

*Another positive: to the many thousands of communities around the world that are busy already - preparing, practically, for energy descent - a designer-maker’s skills will be most welcome.*

*These opportunities are not, for the most part, likely to end up as a paid job - but at least it’s meaningful work. The opportunity, for design, is to join these experiments. These are the seeds of the local living economies that will replace the thermo-industrial one we have now.* (Thackara 2012)

Or in different words: find people who are doing meaningful work for the future, join them and bring your do+think skills with you.
Final reflections & Conclusions
This master thesis has been a trip trying to make sense of many different interventions related with urban informatics. From the social issues in Rosengård to big screens in Madrid to the skatepark in a fancy district in Malmö. The thread connecting these activities is an interest for digital technologies in public spaces and how these technologies can be socially useful. After starting with some common ideas about design for participation or design for sustainability I shifted the political perspective towards the “degrowth” movement and especially about the role of technology for not supporting money-based efficiency and productivity.

There is the need to look for different ways of living and new values. The aspiration of this project is to contribute to find or support some of these new values and behaviours. If “paid work” and consumerism cannot be in the center of a sustainable new world, there is a need to fill life with new values.

One of my favourite proverbs is “when you have a hammer everything looks like a nail” It might seem that just because I’m an interaction designer with good tinkering skills, I always try to look for a high-tech digital solution to a wicked problem. That’s partially true, but I don’t really believe that each problem needs a digital solution; I just think that my role as interaction designer is to explore those digital solutions. Actually I don’t know many better ways of enjoying free time in the city than going to a public park to eat a barbecue, talk with friends and go later to a bar. But digital technologies can offer new experiences and new possibilities to be discovered.

Prototypes

The goals for these explorations have changed during these months. At the beginning, I remember I spent some days looking for examples of transformative products. A single interactive installation somewhere in the world, which had the magical effect of transforming whatever they had around before, the digital equivalent to the Guggenheim museum in Bilbao or the Turning Torso in Malmö. Even though, it probably exists I didn’t find it. And that’s probably because it is ingenuous to think that a simple intervention is able to have such a broad impact. Then I stop searching for that device and moved towards a more participative approach. After all, if I wanted to support a different urban dynamics beyond productivism and consumerism, it is probably a good idea not just giving citizens another black box device.

The following is a summary of the different prototypes I’ve made. Each project can be seen from at least two level of analysis, as Bill Buxton says: Is the design done right? Is it the right design?
The first is the practical level, related with how good or bad the prototype or the workshops were according to the goals and the response. This is actually the easiest part to assess.

The second level is related with how the concept and its development affect to the wicked problem I’m trying to solve.

First I started with the square boombox, a collaborative jukebox. I see it as an invisible layer to transform a square into a place where people go and listen their music together. It is also an example of collaborative media, where participants create together the soundtrack of a space.

In Madrid -together with Victor, my usual teammate in this kind of projects- I organized the workshop “Big Games”. It was planned as a crash course to teach people our knowledge about designing games for public spaces, as a result of our experience with “City Fireflies”. We wanted to involve people and talk about how to work with the public display we had there, but also to experience the importance of the context and the advantages and limitations when creating leisure technology for public places. While the game CityFireflies was designed as a social activity on the street, this workshop was the “tool” to learn how to create similar social activities.

Furthermore in Madrid I contacted with some people to show an idea for improving the way public meetings worked during the demonstrations. 15fM is a FM microphone to transmit audio in a short range and it is a portable piece of technological infrastructure (in the most basic sense) to expand the capacities of public squares to host meetings.

Meanwhile in parallel to these three “products”, I was engaged in a participative design process within the Periphèria Malmö group. In this case the design work was not just a final product but tools for the others co-designers to participate. Within this project I helped to design workshops and designed lo-tech and hi-tech materials to engage and inspire the others. Inspirational cards, exercises, sketching, storyboards, games, a locative media platform... All with the goals of designing urban technologies to let people spread their opinions (the Periphèria goal) and experience participative design as collaborative leisure activity.

All this pieces are examples of different genres and methods of interaction design applied to public spaces: Collaborative media, game design, place specific computing, participative design, mobile computing.
Nine paths to explore when designing technologies for the unproductive city

To conclude I’d like to move to the second level of analysis and extract a set of challenges or paths to explore which might be useful for future designs. I extract these challenges from the design process that I followed, from the prototypes and also from the critical reviews that I made in the third chapter. It is an attempt to summarize part of the knowledge distributed within these five months to make it useful for me and other designers.

They take the form of short pills with references to examples of situations previously explained in a sort of “inspirational patterns”. Abstract enough to be useful in different situations but concrete enough to be easy to understand. (Löwgren 2007)

**Design to create identities and bounds.**

First of all it is important to have a good relationship with the place you live. “In places where people ‘live’ like nesting time breeds that attachment to place.” (Sennet 2006) But even though it takes time services like the neighbourhood social networks can help to know people and create connections faster. Collaborative media examples like the story telling concept about Rosengård can also help the participants to know the neighbourhood and create attachment with the place and its history.

**Motivate people to explore the city beyond where they live**

Cities are enriched when people find motivation to go from their neighbourhood to other ones. But Malmö is a very segregated city. One of the problems commonly cited is that youngsters in Rosengård don’t go outside until they are adults. But also the other way around: People don’t go to Rosengård because they don’t find a reason to visit it.

The “hidden stories” sketch or some other ideas related with locative media, go towards this direction. In Rosengård, there isn’t a beach or a “Turning Torso”, there are “hidden stories” behind the walls of Rosengård houses. A valuable immaterial asset waiting to be discovered by the rest of the city and by the people who live there.

**Create agnostic spaces**

Based on the Chantal Mouffe theory of agnostic spaces (Mouffe 2005). Democracy doesn’t mean just to agree, keep going and hide the
differences. The point is to know we have differences and we are different and still be able to live together and take decisions.

“The Textales” project aims to create debate around issues that the community finds important. In this case it is a confrontation through opinions, while in the Malmö or the Berlin living labs the conflicts emerge through initiatives or projects.

**Design for encounters and meeting the stranger. Intercommunicate people.**

If as Hannah Arendt says, the public space is the space to encounter the stranger, let’s make it easier.

In the game City Fireflies, each level requires more people to play. In the “Serendipitor” app people move away from its common path to meet a different city or a different way to perceive it.

**Encourage ownership**

Ownership is the citizen engagement with collective urban issues and the capacity to act on them. The notion of ownership then is about inclusiveness, access and agency rather than exclusive proprietorship. (Lange. 2011)

Here we’ve seen that Rosengård inhabitants live surrounded by tons of experiments made by the city council and the university in order to create a “better neighbourhood”. How alienating it might feel to be in that situation, like a bacterium under the microscope. Experiments go and leave quite often without asking and researchers write papers about the place you live.

Is it possible to influence changes when people feel they are not part of the changes? We have explored two ways of encouraging ownership. The first one is the participative design, the involvement of the people who are going to receive the impact of the design, in the design stage.

The second one is about designing products that people like, use during a period of time and find ways to include in their lives and use it in their own way. It requires time and care on not over-design but leave some degrees of freedom to the users.

**Co-design: The design process as leisure time activity**

Participatory design started from two standpoints (Ehn 2008):
• Ethical: those affected by a design should have a say in the design process.
• Practical: ensure that existing skills could be made a resource in the design process

If we think in the participative process going on at Medea or in the Berlin Living lab example, at the end there are little outputs or final designs so these two perspectives are not enough to explain the usefulness of it. The participative process is another dimension for the participants not aimed only at finishing a design that will be place in their neighbour. For the participants it is mainly an activity where they learn new things, meet people and have fun. So beyond the concrete results of the process, designers of workshops and prototypes should stress the good mood, the enjoyment and in general the elements which enrich the experience of the participants.

Common Leisure

We are sociable animals, let’s go outside and share our time with others. The SMSlingshot is a public performance. The city science is a collaborative exploration of the urban environment. And the street jukebox gathers people to share enjoy or regret music in common.

They represent a new set of public activities mediated by technology. When moving the use of technologies from the private context to the streets of the city, it might be easier then to engage people in activities where they meet, participate and create together.

The street as a destination

Streets in big cities are too commonly a place devoted to consumerism. Transition spaces between one private space like a house and another one like a shop. Most of the concepts described and developed here aim to give value to the streets through technology: Let’s remove ads from urban displays and create games instead. Let’s create a music listening circle in the park. Let’s get lost and explore what it is in the streets.

Basic infrastructure

New behaviours demand new infrastructures. For instance as it was described in the 15fM prototype, squares are not made to host meetings. In the Greek polis, squares were amphitheatres with good acoustics and visibility. Modern squares should have an embedded sound system ready to use to host meetings. This requires cooperation from politicians, which are probably not keen on boosting too much participation. Thus, meanwhile guerrilla solutions are needed.
The end

Reviewing these nine paths, I see that they also work as a description of the kind of life in the city I am designing for. A city where the public space is made to be enjoyed and it is used to do things in common.

These paths and all the things explored during these months have been really meaningful to me. The relationship between our productive model, the environment, the participation and the urban digital technologies are topics I’d like to keep exploring during the next years of my career. Together they offer me a program to develop different and interrelated products or services.

At the end all these design processes and paths to explore, are just ways to do helpful things that humans should do: hang out together, creating things just for the sake of having fun, and enjoy our time in a way that contributes to reshape the values of our society towards, hopefully, a better one.
Bibliography


NEF, 2010. 21 hours,


Shirky, C., 2007. Cognitive Surplus. Available at:  
http://www.edge.org/documents/archive/edge255.html#gin
[Accessed May 6, 2012].


Trotksy, L., 1937. The Revolution Betrayed. Available at:  

V.A, 2010. CommunityWiki: Liquid Democracy. Available at:  