



Smart students building their campus: A LARGE-SCALE PARTICIPATORY DESIGN

Antonella De Angeli

Department of Computer Science and Engineering



UNIVERSITY
OF TRENTO - Italy



trentorise

Open Innovation rooted in Research and Education



#THINGS WE LOVE AT



Thanks to
THE LAB..

..& all the
STUDENTS:

- HCI FALL 2011
- HCI FALL 2012
- CSCW SPRING 2012



Marco
PISTORE

TEAM LEADER



Andrea
MONGERA



Paolo
ZANEI

UNITN REFERENTS



Alessandro
TOMASI



Annapaola
MARCONI



Gabriele
ZACCO



Ilya
ZAIHRAYEU



Matteo
GEROSA



Raman
KAZHAMIKIN

PLATFORM & SERVICES



Antonella
DE ANGELI



Semion
LAPIN



Nicolò
DE UFFICI



Sylvie
NOEL



Silvia
BORDIN



Cristina
CORE

INTERACTION DESIGN



Oscar
ZAMBOTTI



Matteo
CHINI



Ronald
CHENU



Viktor
PRAVDIN



Mirko
PERILLO



Giordano
ADAMI



Dawid
POGORZELSKI

DEVELOPMENT



Huzefa
KANCHWALA



Silvia
TORSI

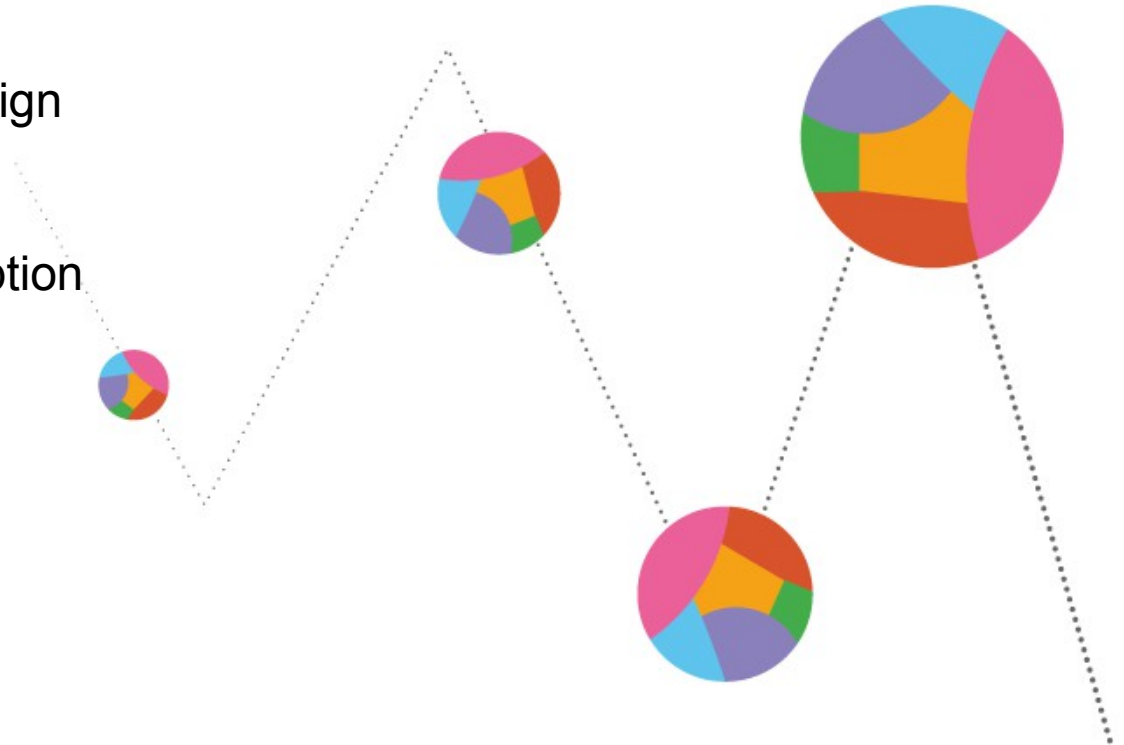


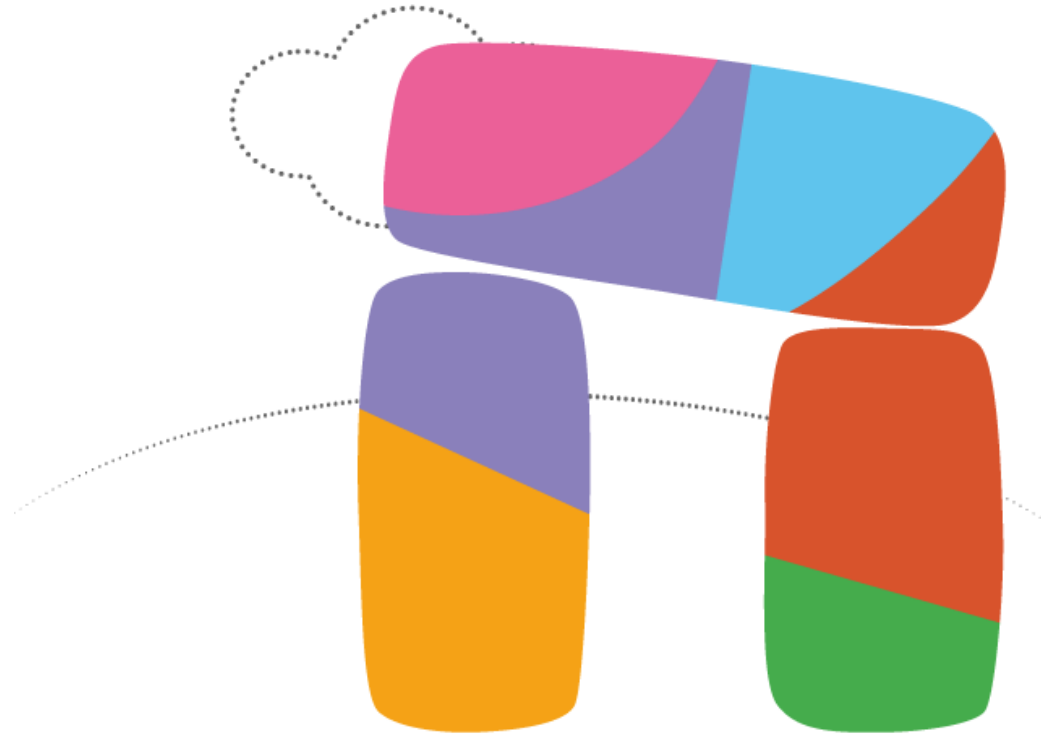
Simone
CASAGRANDA

PREVIOUS CONTRIBUTORS

AGENDA

- Smart campus: An introduction
- Design in the wild!
- List of services
- Iterative interaction design
- Field study
- A model of mobile adoption
- Future work





SMART CAMPUS: AN INTRODUCTION

WHAT IS SMART CAMPUS?



Community creating services they need and like



Territorial lab for experimenting with innovative ICT solutions



Socio-technical platform for the creation and delivery of campus services

TERRITORIAL LABS

Key business model enabler: territorial data and apps allow for new kinds of services

Territorial labs apply to **all three dimensions:**

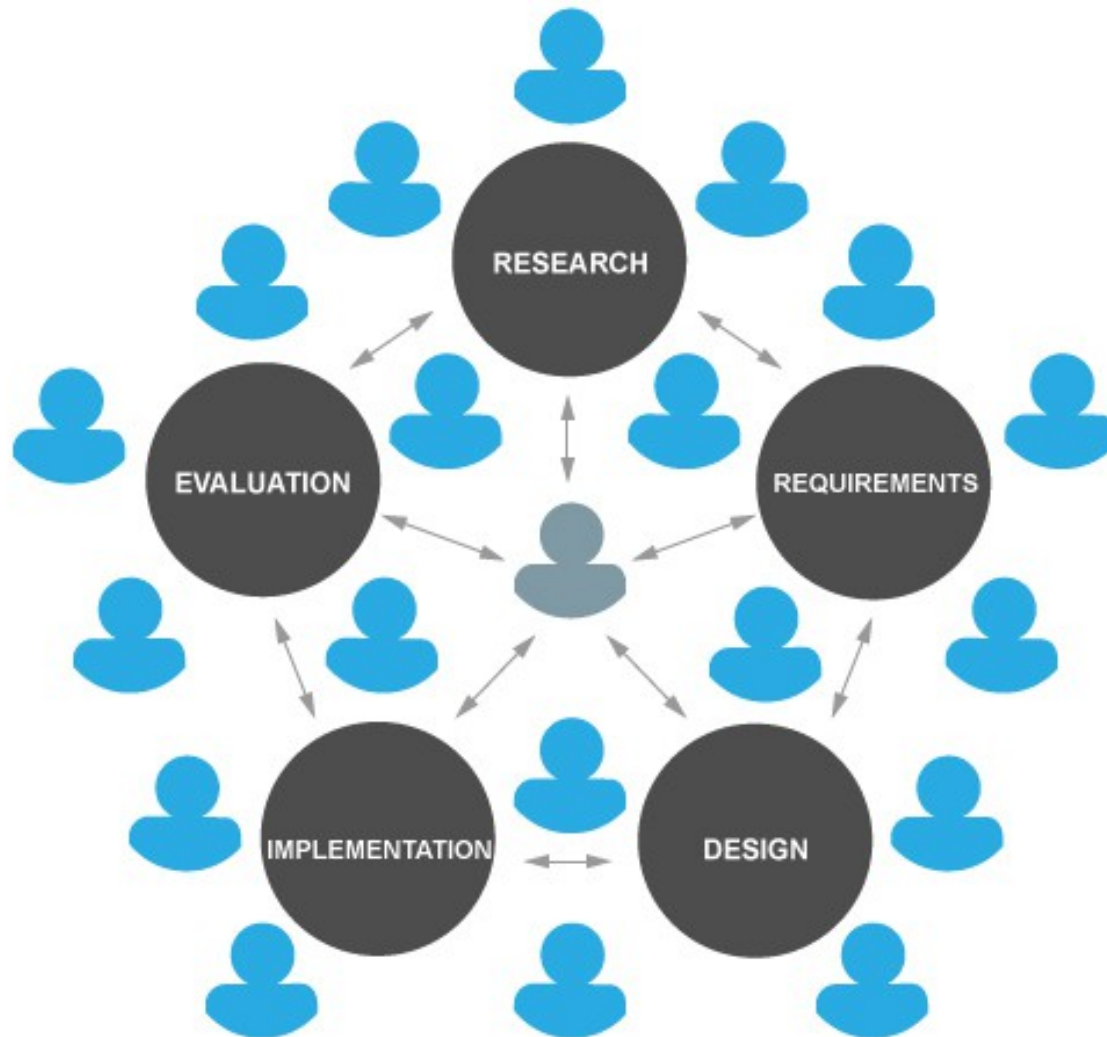
- **Research:** results tested in realistic settings
- **Education:** hands-on experience for students in Masters and PhD courses and/or during summer/winter schools
- **Business:** market tests, comparison among alternative business models, assessment of the impact on organizations

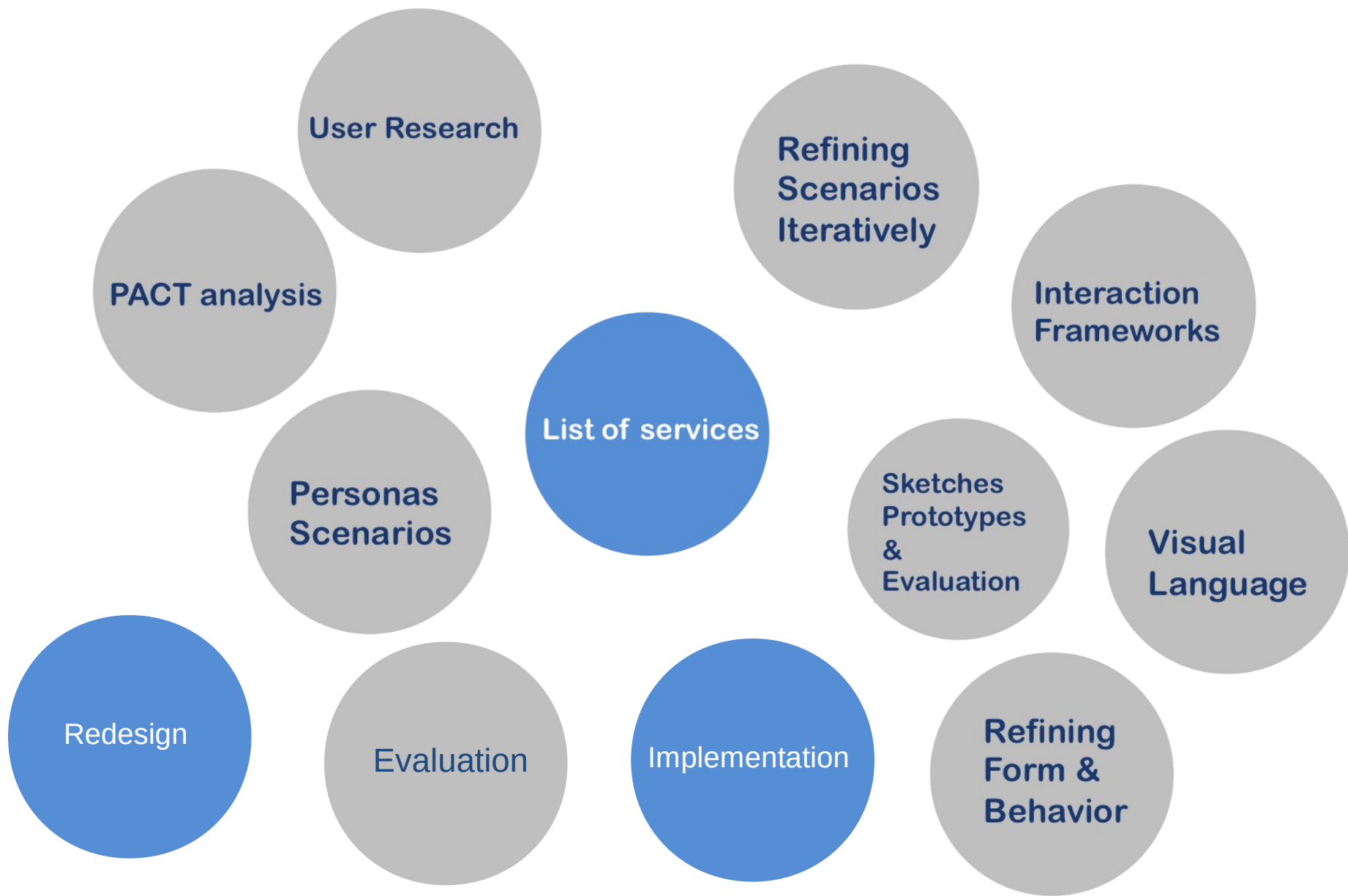




METHODOLOGY

DESIGN







ENVISIONING NEW SERVICES

USER RESEARCH

Methodology

- Participatory design with
6 groups of students

- Questionnaire study:
perspective students

- Focus groups

- Design workshops

- Diary study

Results

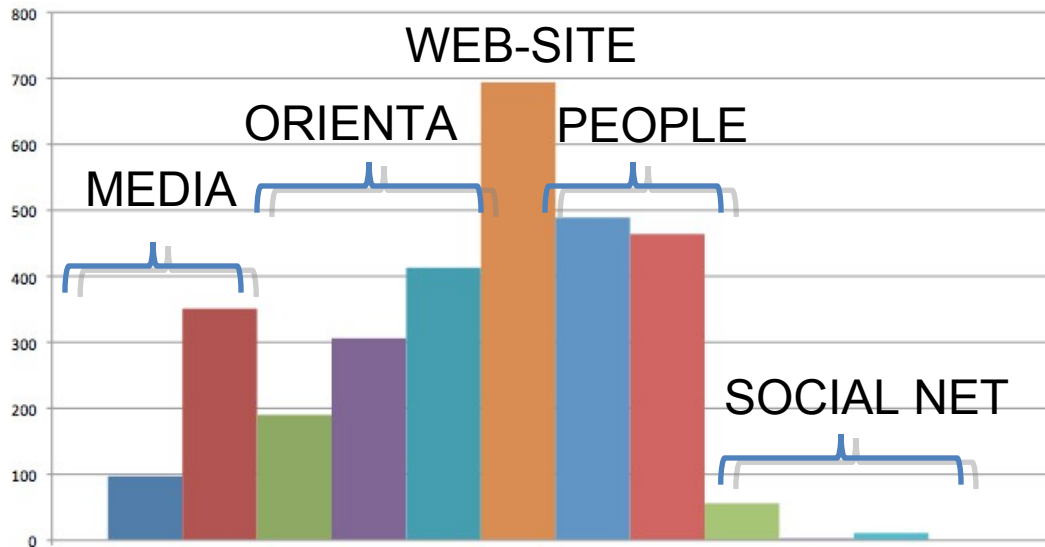
- List of services

- Personas

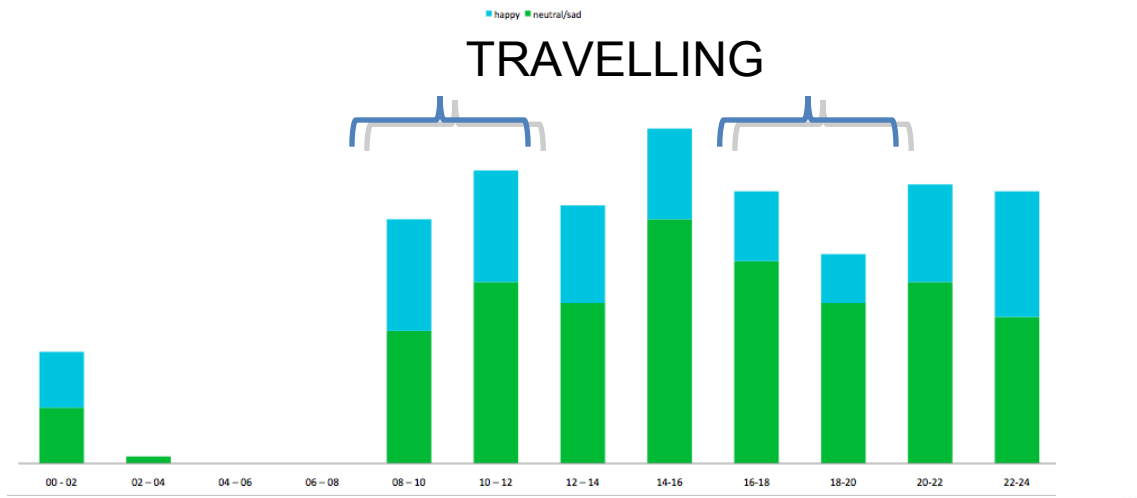
- Scenarios



SPACE FOR DESIGN



WHERE DO I STUDY?



STUDENTS

Variations due to Careers

Perspective, Triennale, Specialistica, PhD

Newcomers, second/third year, planning and writing the thesis

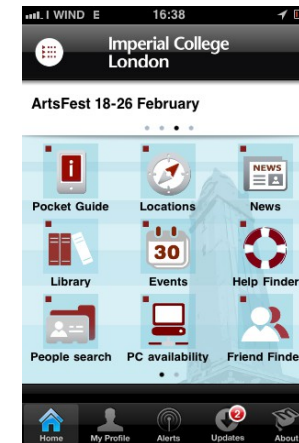
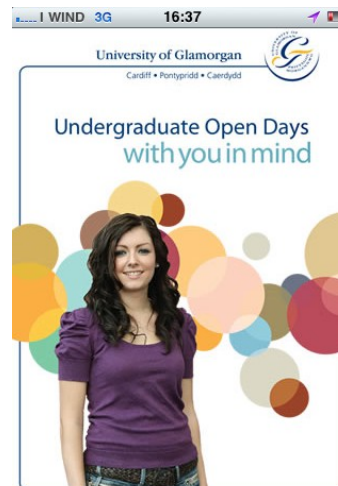
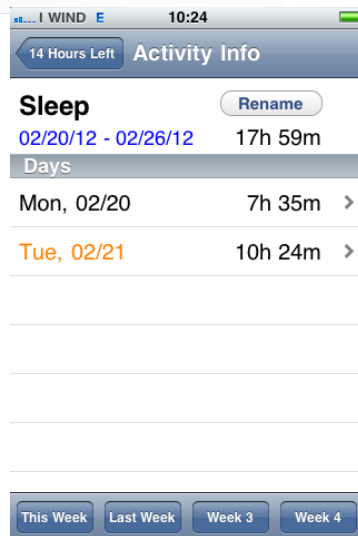
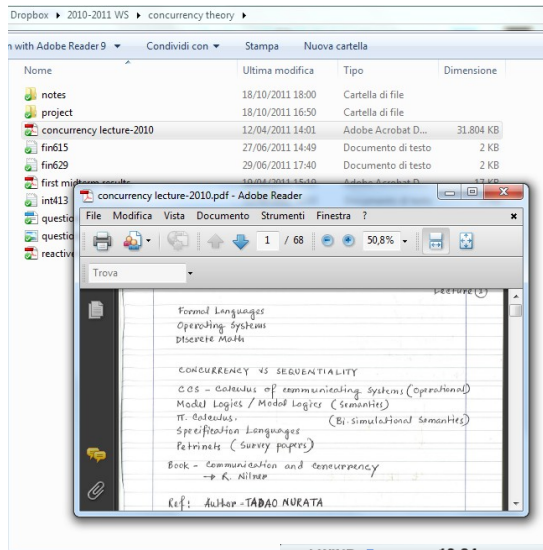
Gender

Curriculum

Country of origin



BENCHMARKING



FIRST LIST OF SERVICES

3 Design Trajectories

Learning

Daily Life

Recreation / spirituality

List of 25 Services (PACT style)

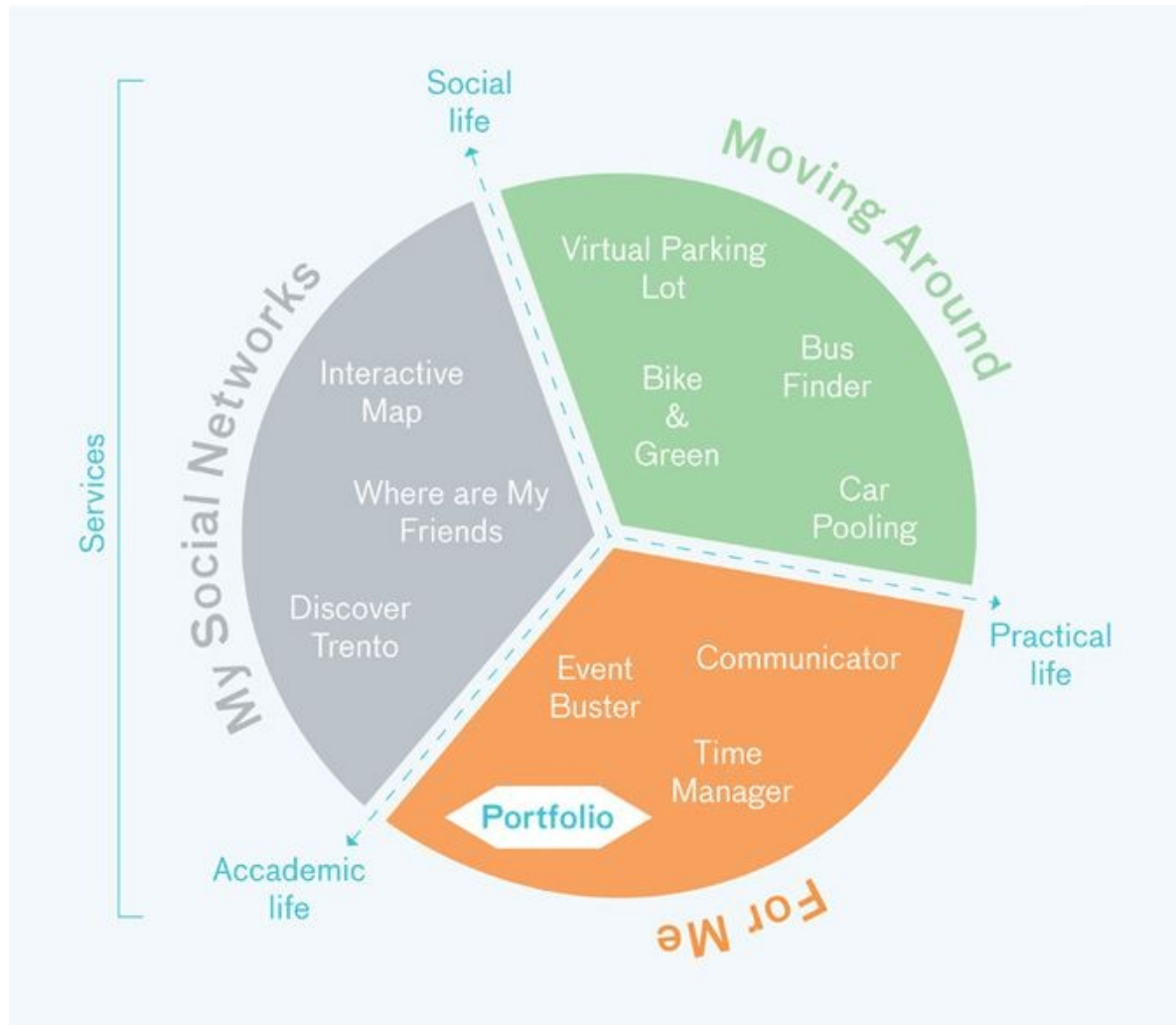
Discover Trento. A geographical service for students who wish to share their interests while moving around Trento.

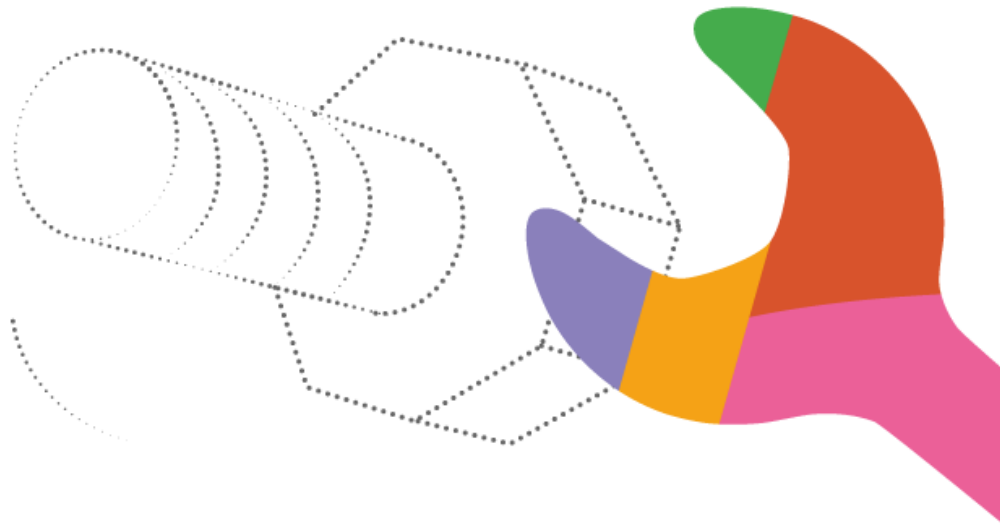
It emphasizes the social context (leisure, sport and culture).

It would provide foreigners with a means for exploring the territory (implications for tourism).



SERVICES: MIX OF USER, UNI & TECH REQUIREMENTS





BUILDING THE SERVICES

SCENARIOS

Carlo received his MSc degree in Computer Science from the University of Trento in November and is now looking for a position as programmer in Torino.

He was invited to submit a CV and some examples of his work to an important software company but he is having a difficult time to find the right material among the many course-works, programs and sketches produced in the last years.

He searches his hard disk, memory sticks and old laptop for documents about which he has forgotten names and location. When he found them, he often cannot open them because the applications with which they were created are old. He finds himself after two days of work with little materials and still needs to write a CV.

Certified Portfolio

UNIVERSITY OF TRENTO

more information
about this
document



IDENTITY INFORMATION



REVIEWS

references: 2

peer comments: 1

COURSES AND GRADES

average mark: 97 progress completed: 70%

more

on mouse over

PROFESSIONAL AND EXTRACURRICULAR EXPERIENCE

Job I

INTERNSHIP

PORTFOLIO

PAPER I

WORK I

NEW NAMES

My People

Vivi Trento

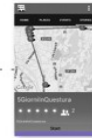
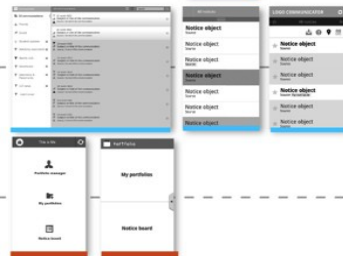
Viaggia Trento

LifeLog

INBox

MyCVs

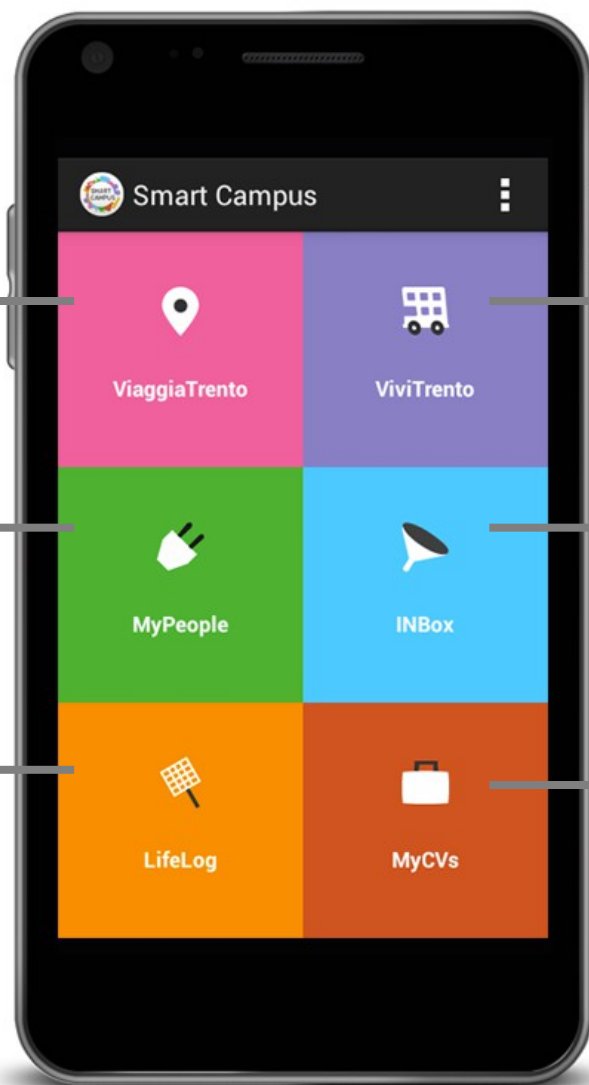
Launcher



Plan your trips in Trento and monitor your recurrent trips

Manage your communities, share and follow relevant topics

Capture your experiences and share them with friends

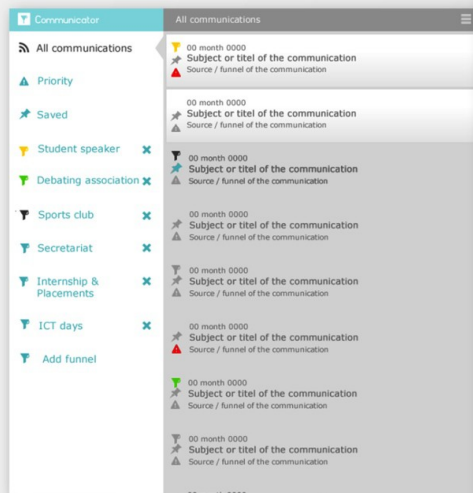


Discover interesting events, places and itineraries in Trento

Organize the messages form the campus, the city, and the other apps

Present yourself by combining certified info from Uni with your own content

SERVICE DESIGN



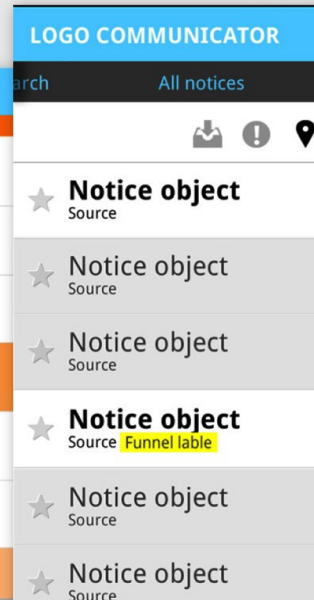
1.

*Desktop application
"Funnel" functionality for sorting the notifications and messages.



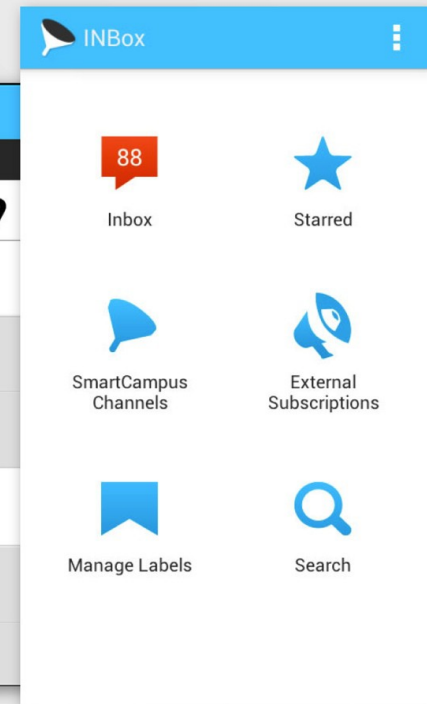
2.

*Mobile application
Set the priority of messages by time and date.



3.

Enhanced navigation that permits to switch trough the "funnels" with the swipe gesture.



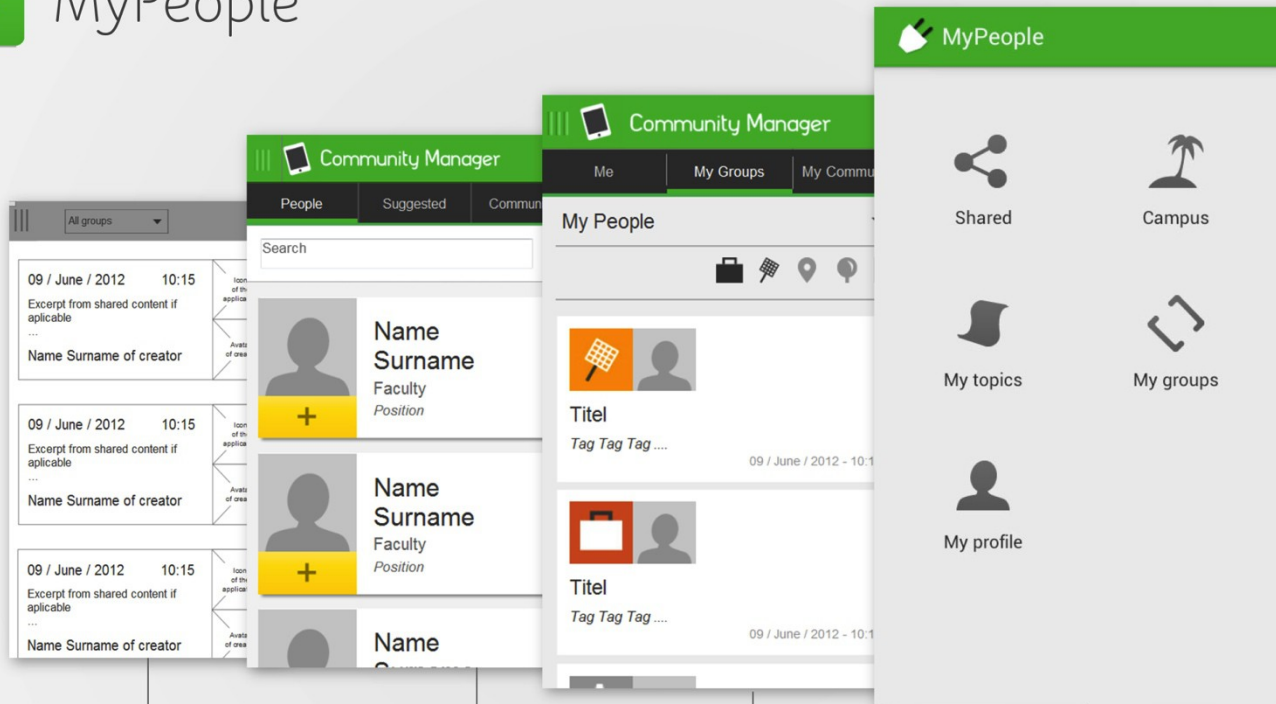
Present

Android optimized navigation.
Redesigned order to better serve the smart campus community notifications

SERVICE DESIGN



MyPeople



1.

List of shared contents as the first view of the app with the possibility to filter by a specific group.

2.

List of people and communities present in the campus as the first view. Plus laterally sliding main menu.

3.

List of shared content as the first view with augmented possibilities to filter the content.

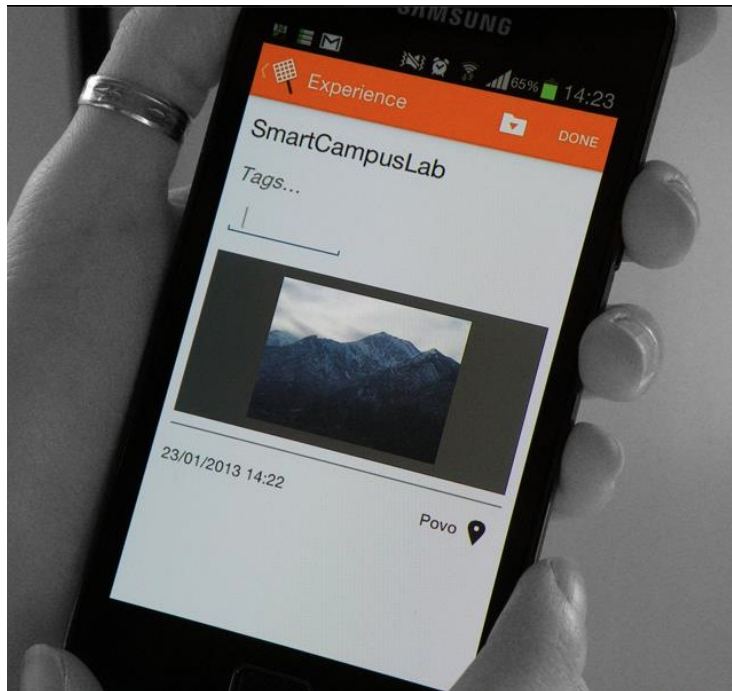
Present

Android optimized navigation. More efficient cross application functionalities.

GOING LIVE!!



GOING LIVE!!




Experience

ending january

calendar

Description...




30/01/2013 15:55

Po

Diary

JANUARY 30

ending january

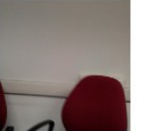


Povo

30/01/2013 15:56

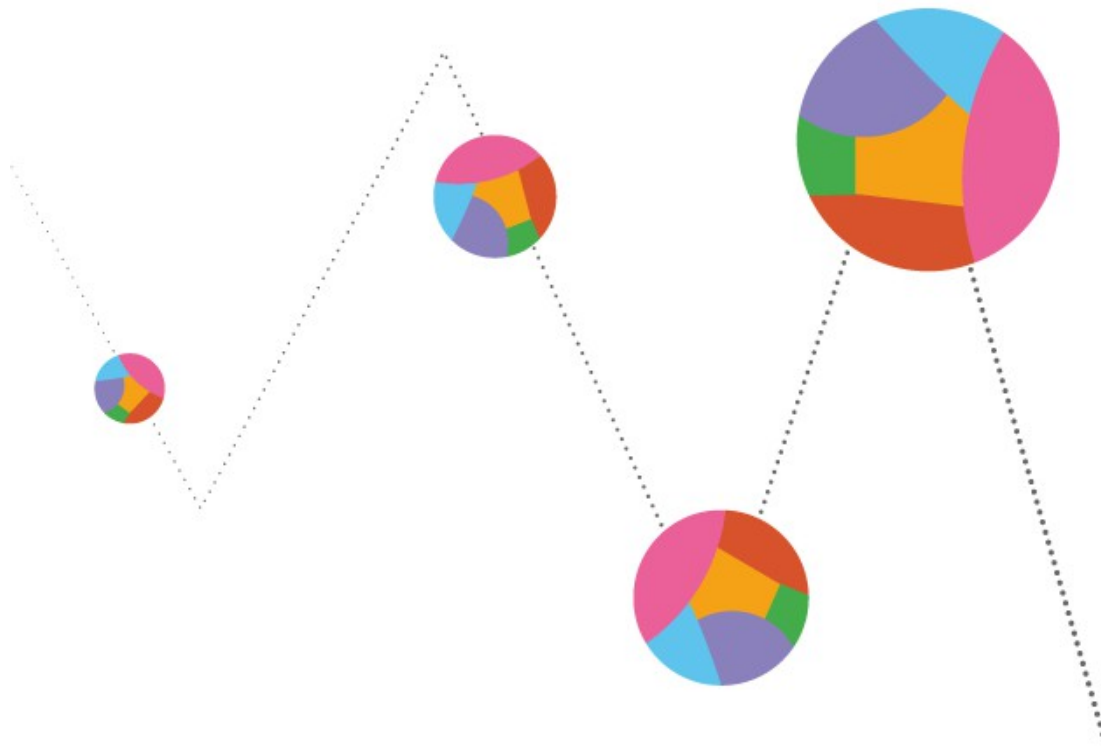
JANUARY 29

prova



Povo

29/01/2013 10:32



EVALUATION



ORGANISING THE STUDY



METHODOLOGY

DESIGNERS

Heuristics Evaluation
User-based Evaluation
Field Study

Design
Forum

USERS

Questionnaire Attrak-Diff2
(Pragmatic-Hedonic -
Aesthetics)
7-point semantic
differential
Diary Study
Interviews
Forum

SOME RESULTS

90 (participants)

Number of smartphone delivered:
88

Gender: M = 85

Average Age: 22 from 21 to 31

**Number of student with a
smartphone before the study:** 58/86
(67%)

Number of questionnaires: 4
about the evaluation, 1 about the
SmartCampus App

**Number of questions on Smart
Campus app:** 34 (date: 29th
October)

Time between questionnaires:
2/3 weeks, date: 16/10; 29/10;
21/11; 18/12

SOME RESULTS

**Total number of diaries
contributions until 13/02: 1020**

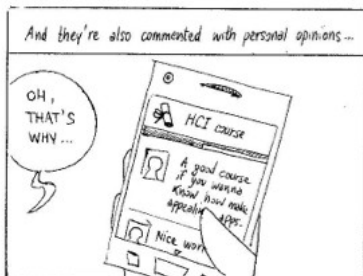
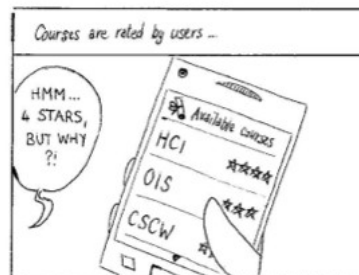
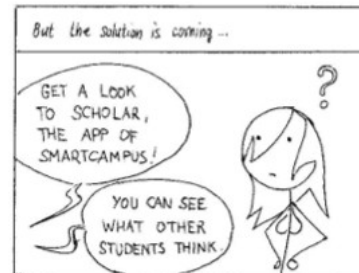
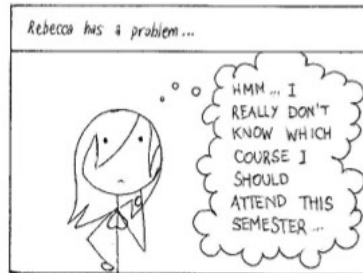
Data from the Forum until 13/02:

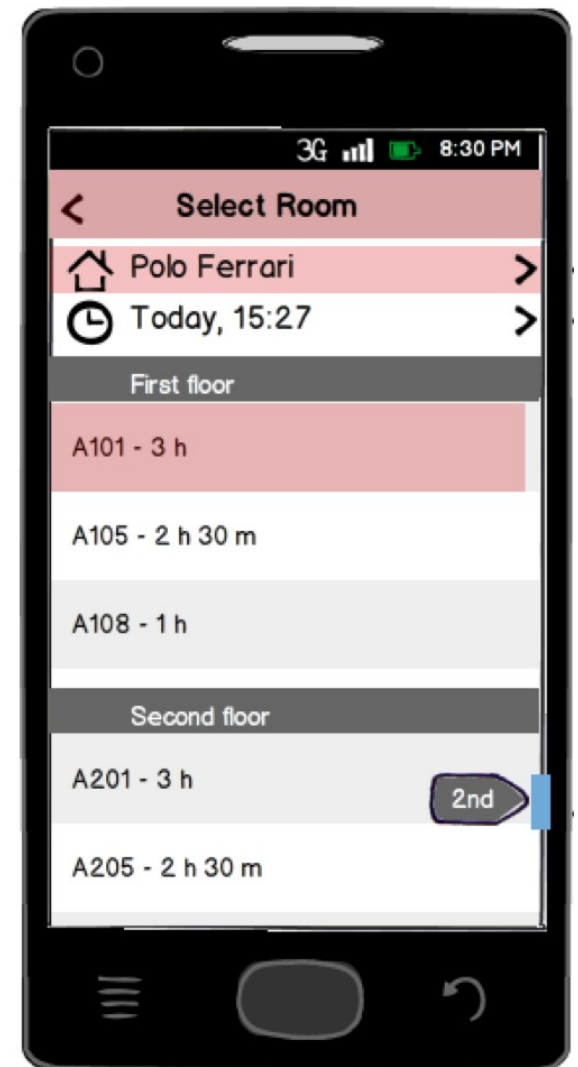
Total posts: **405**

Total topics: **107**

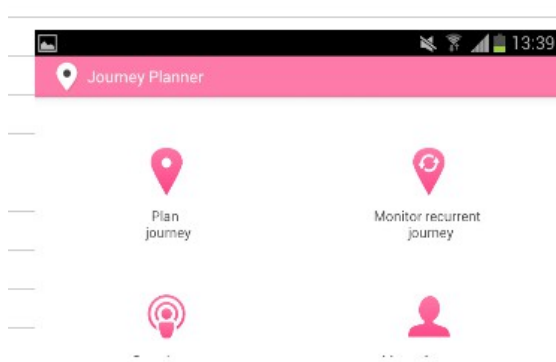
Total members: **91**

Top Contributor: **fox with 58
contributions**

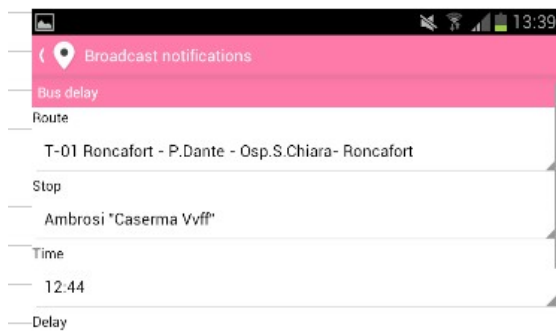




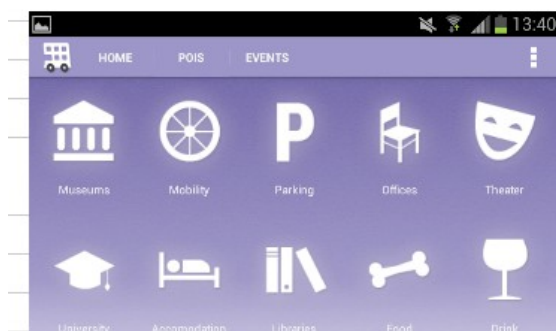




La schermata orizzontale non è ottimizzata per contenere tutte le opzioni.



Sempre nella schermata orizzontale la barra di scorrimento si sovrappone con gli indicatori sottostanti.



In *Discover Trento* la visibilità del focus sui tab è eliminata nel caso di visualizzazione orizzontale.

Smart campus app interface showing the 'EVENTS' tab. The app is running on a device with 28% battery and the time 08:48. The 'EVENTS' tab is selected, and the 'Create event' form is visible. The form includes fields for Title, Date, Start, End, Place, and Tags. The 'Place' field is set to 'Current location' and the 'Tags' field contains 'Party, costume, fun'. The 'Start' and 'End' times are both set to 08:00. The 'Cancel' and 'OK' buttons are at the bottom.

HOME POIS **EVENTS**

Create event

Title
Title

Date
29/10/2012

Start 08:00 End 08:00

Place Current location

Tags
Party, costume, fun

Cancel OK

Potrebbe essere utile avere la possibilità di creare eventi della durata maggiore di un giorno

[https://maps.google.it/maps/ms?
ie=UTF8&hl=it&oe=UTF8&msa=0&msid=2
14070488627675002781.0004d003b3fcdc
bf0d608](https://maps.google.it/maps/ms?ie=UTF8&hl=it&oe=UTF8&msa=0&msid=214070488627675002781.0004d003b3fcdcbf0d608)



SMART CAMPUS CONTEST

A PARTICIPATORY DESIGN CONTEST: WITH,
FOR AND FROM STUDENTS –

4th appointment with Smart City seminar series
March 14 at 10:30am

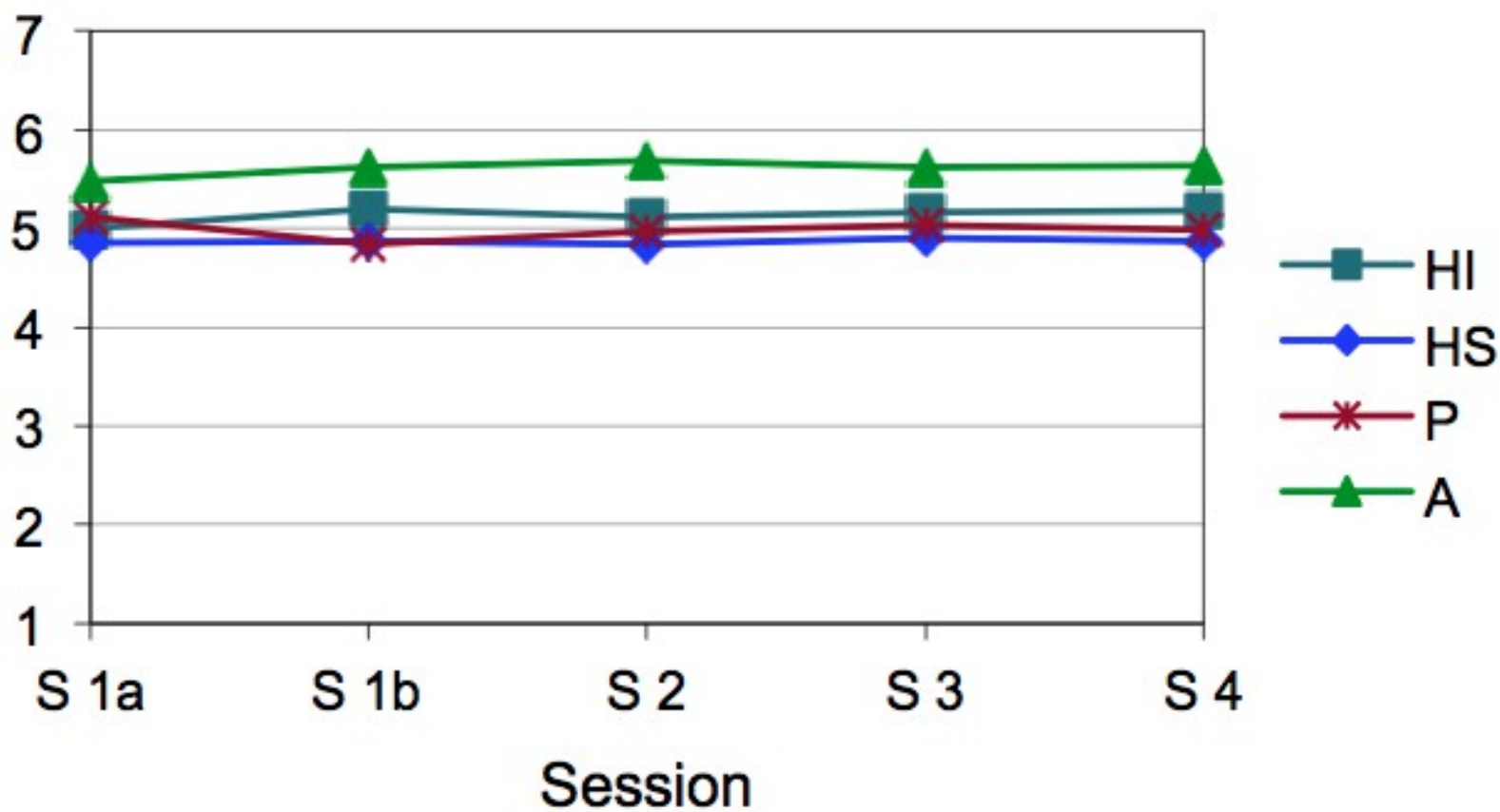
Presentations in italian

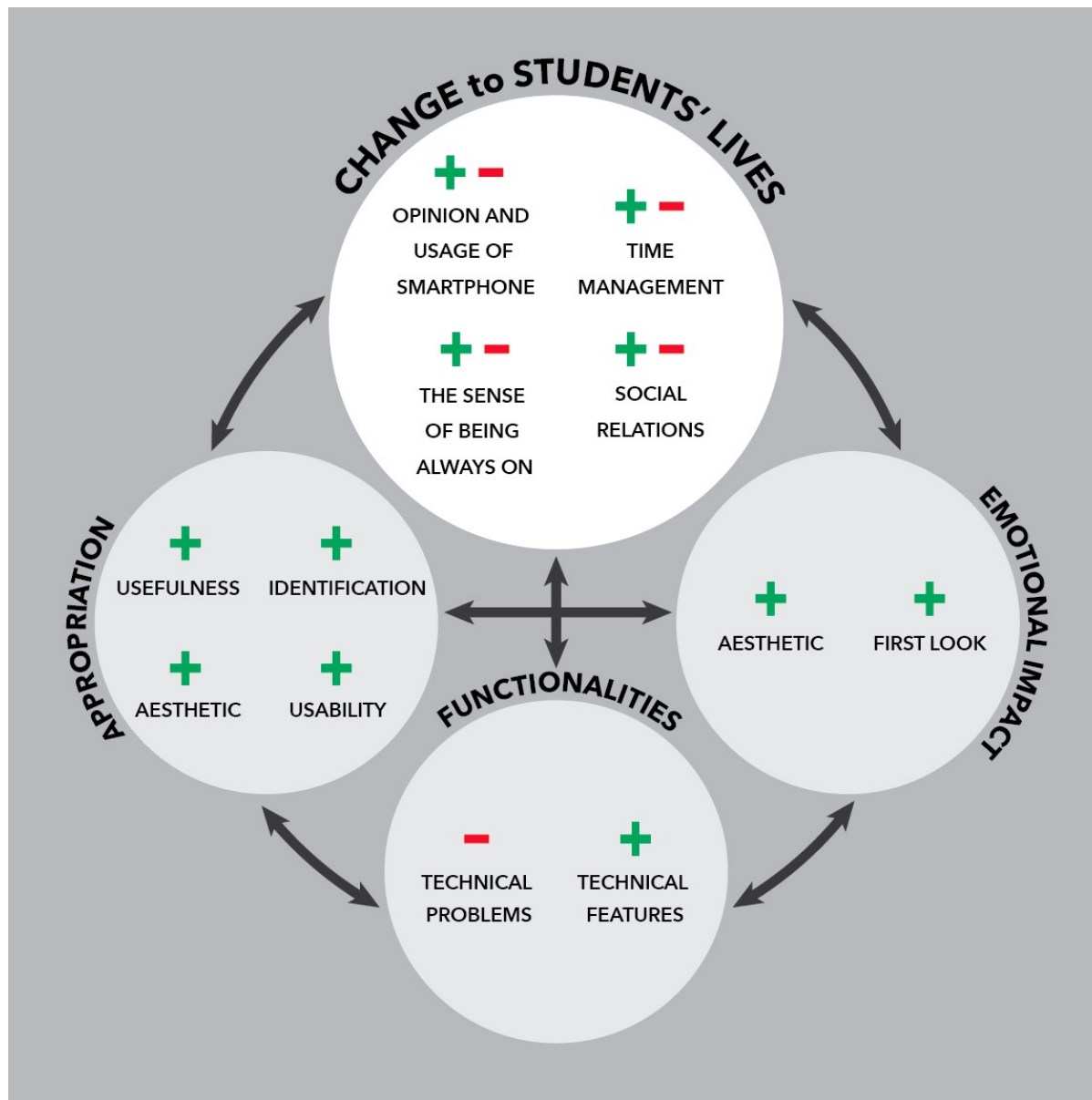
Sala Stringa – FBK-CIT, Via Sommarive, 18 – Povo-
Trento



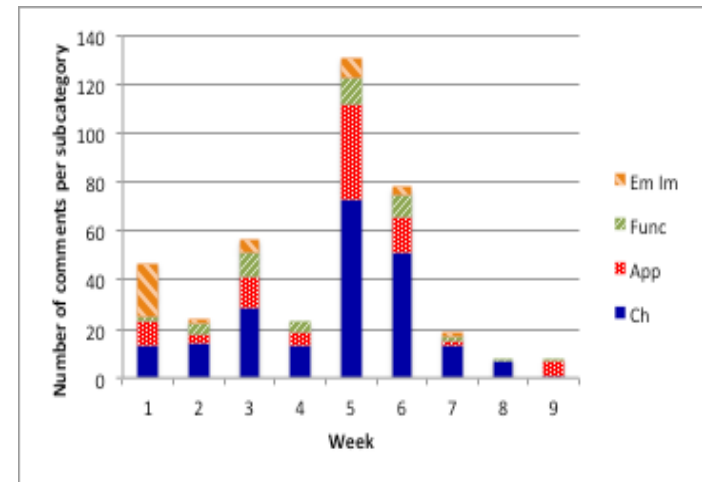
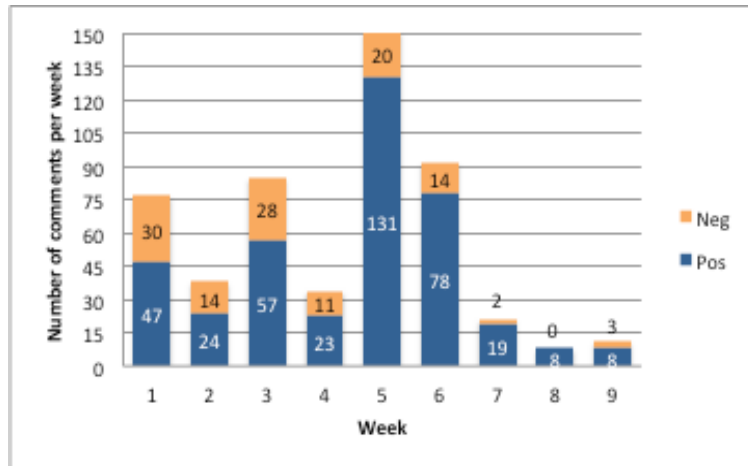
MOBILE ADOPTION

Average score for the
four dimensions





EVOLVING OPINIONS



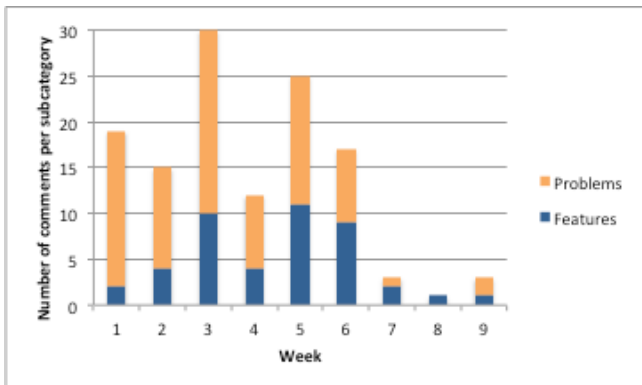
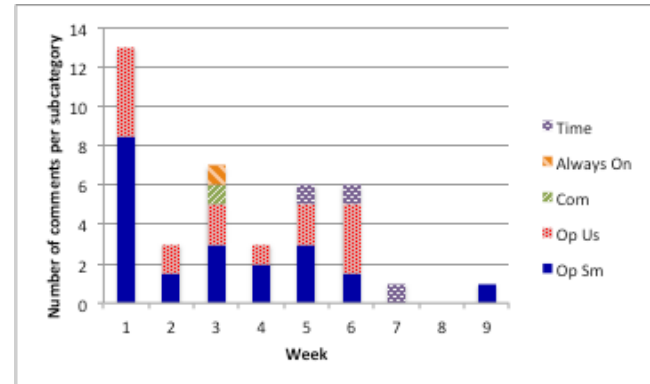
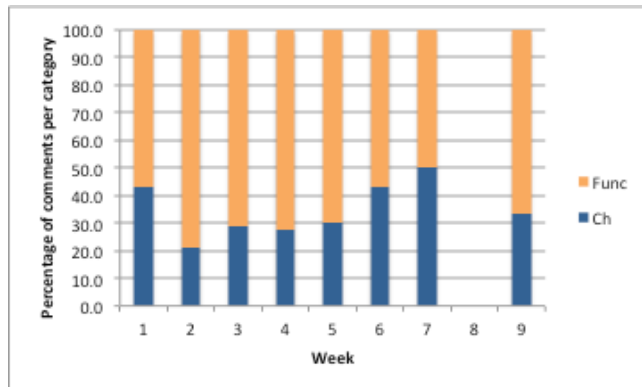
(...) i never thought 3g internet could be so useful. Having emails, skype etc always with you is amazing!

Student 26, 28 October 2012 (week 2)

I'm happy as a child: it's my first smartphone!

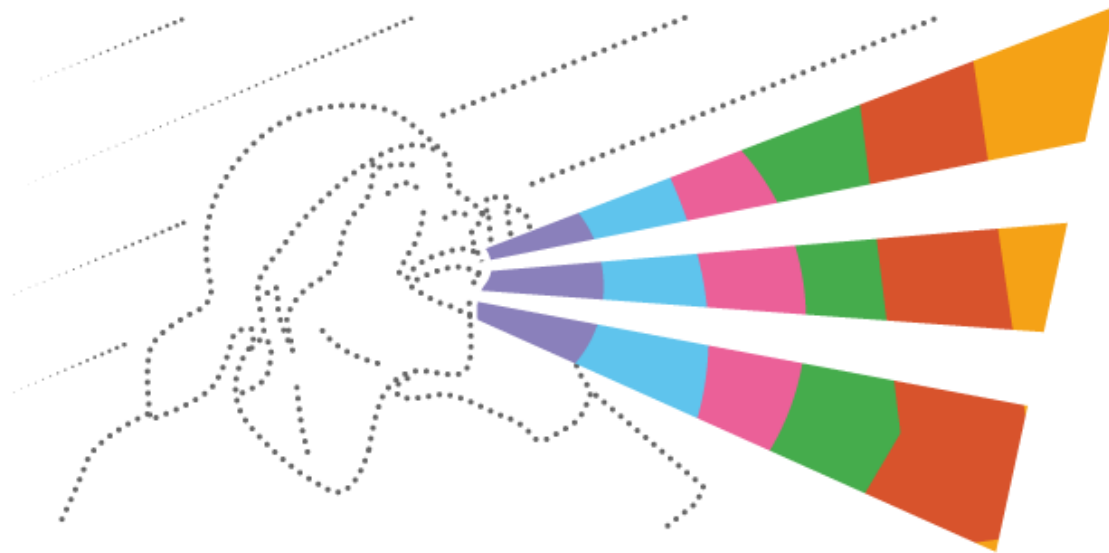
Student 25, 16th October 2012 (day 1)

NEGATIVE OPINIONS



I'm not very happy with the fact that the smartphone is very bulky and uncomfortable to carry around (...) ()*

Student 64, 23 October 2012 (week 2)



**EMPOWERING
THE COMMUNITY**

tester/designer/developer team --- good design comes from a community!! Let us know if you are interested!
2 febbraio alle ore 10.45



Smart Campus Lab presso Smart Campus Lab.
30 gennaio



Mi piace · Commenta · Condividi

2

A Tiziano Molinari, Trento RISE, Sylvie Noel e altri 11 piace questo elemento.



Smart Campus Lab ha condiviso un link.
28 gennaio

We thank Paolo Traverso, speaker of 1st Smart City seminar! He made a very interesting lecture and we will soon upload a selection of the main points of his talk!

Visualizza traduzione



FBK – Fondazione Bruno Kessler
cit.fbk.eu

His main research interests are in Software and Services, Artificial Intelligence, and the Automated Verification and Synthesis of software



Smart Campus Lab
1 febbraio

180 likes! Our community is growing fast :)

Visualizza traduzione

Mi piace · Commenta

A Gabriele Zacco, Giovanni Artusi, Mattia Benedetti e altri 2 piace questo elemento.



Smart Campus Lab ha condiviso un link.
29 gennaio

Find us also on Google +

Visualizza traduzione



Smart Campus – Google+
plus.google.com

Smart Campus – Services WITH and FOR people – SmartCampus is a lab and a community. The lab builds a social and technical environment for collaborative

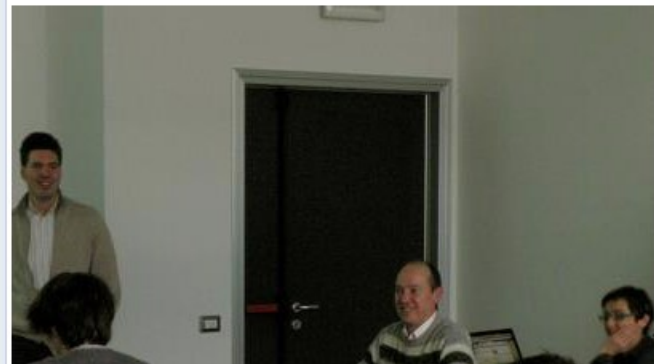
Mi piace · Commenta · Condividi

A Martina Margoni e Gabriele Zacco piace questo elemento.



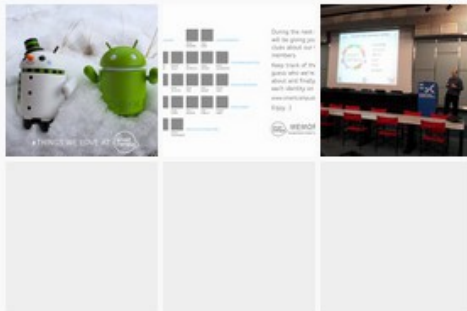
Smart Campus Lab
29 gennaio

Ideas Contest presentation_28 January 2013 (8 foto)



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Services WITH and FOR people

Trento, Italy · [smartcampuslab.it](#)**34**

TWEETS

50

FOLLOWING

44

FOLLOWERS

**Follow**

Tweets

**Smart Campus Lab** @smartcampus_lab

9h

Don't miss tomorrow's Smart City seminar on participatory design - 11:00 sala Stringa, FBK buildings - Povo (TN)

[trentorise.eu/news/smart-stu...](#)[Expand](#)**Smart Campus Lab** @smartcampus_lab

16h

Pic from the lab! [pic.twitter.com/apTAn8gn](#)[View photo](#)**Smart Campus Lab** @smartcampus_lab

7 Feb

Next week we're having prof. Antonella De Angeli talking about [#participatory](#) [#design](#) at 2nd [#smartcity](#) [#seminar](#) [facebook.com/events/1501790...](#)[Expand](#)**Smart Campus Lab** @smartcampus_lab

7 Feb

Time for answers in our photo contest! [#facebook](#) [facebook.com/smartcampuslab...](#)[Expand](#)**Smart Campus Lab** @smartcampus_lab

6 Feb

Have a look at our [#facebook](#) photo challenge last post!



Home



Profilo



Pagine



Esplora



Foto



Community



Eventi



Cerchie



Local



Altro

Smart Campus

Anteprima profilo...

Modifica profilo

SERVICES
WITH & FOR
PEOPLE

Post

Informazioni

Foto

Video

smart
campus

Condividi le ultime novità...

smart
campus**Smart Campus** ieri alle ore 16:12 - Pubblico

Don't miss tomorrow's Smart City seminar on participatory design that will be held in FBK buildings. Speaker will be Antonella de Angeli, Associate Professor of Human-Computer Interaction at the University of Trento, Italy <http://www.trentorise.eu/news/smart-students-building-their-campus-large-participatory-design>

**Smart Students building their Campus: a large Participatory Design »**

In this talk, we will present the user research which has informed the design of the first set of Smart Campus Apps. This process started at the beginning of 2012 involving a large number of students ...

+1



Aggiungi un commento...

www.smartcampuslab.it

+1



+27

17 NELLE TUE CERCHIE



17 TI HANNO INSERITO NELLE LORO CERCHIE





SERVICES
WITH & FOR
PEOPLE



RECENT UPDATES

Smart Campus Lab New Smart Campus website is online!

Smart Campus

smartcampuslab.it · Services WITH and FOR...

Shared with all followers

25 impressions

2 shares

16.00% engagement

Like (1) · Comment · Share · Feature this update · 12 days ago

You like this

Add a comment...

Smart Campus Lab Our services are now open source: enjoy and contribute!

<http://trac.smartcampuslab.it>

Smart Campus

trac.smartcampuslab.it ·

Shared with all followers

61 impressions

2 clicks

2 shares

6.56% engagement

Like · Comment · Share · Feature this update · 26 days ago

Google

Engage per le Agenzie

Iscriviti oggi

PEOPLE ALSO VIEWED



More insights



Smart Campus Lab Forum

Services WITH and FOR people

[Board index](#) < [Technical support](#) < [MyPeople](#)

[User Control Panel](#) (0 new messages) • [View your posts](#)

Chrash da "my profile"

POSTREPLY

Chrash da "my profile"



QUOTE

by [\[redacted\]](#) » Tue 27 Nov 2012, 21:55

Cliccando sul simbolo + presente nella schermata l'applicazione non risponde e dopo qualche secondo lo schermo diventa nero e l'applicazione viene terminata dal sistema operativo. Finché il sistema operativo non avverte l'utente che ha terminato "community manager" il telefono è bloccato.

Re: Chrash da "my profile"

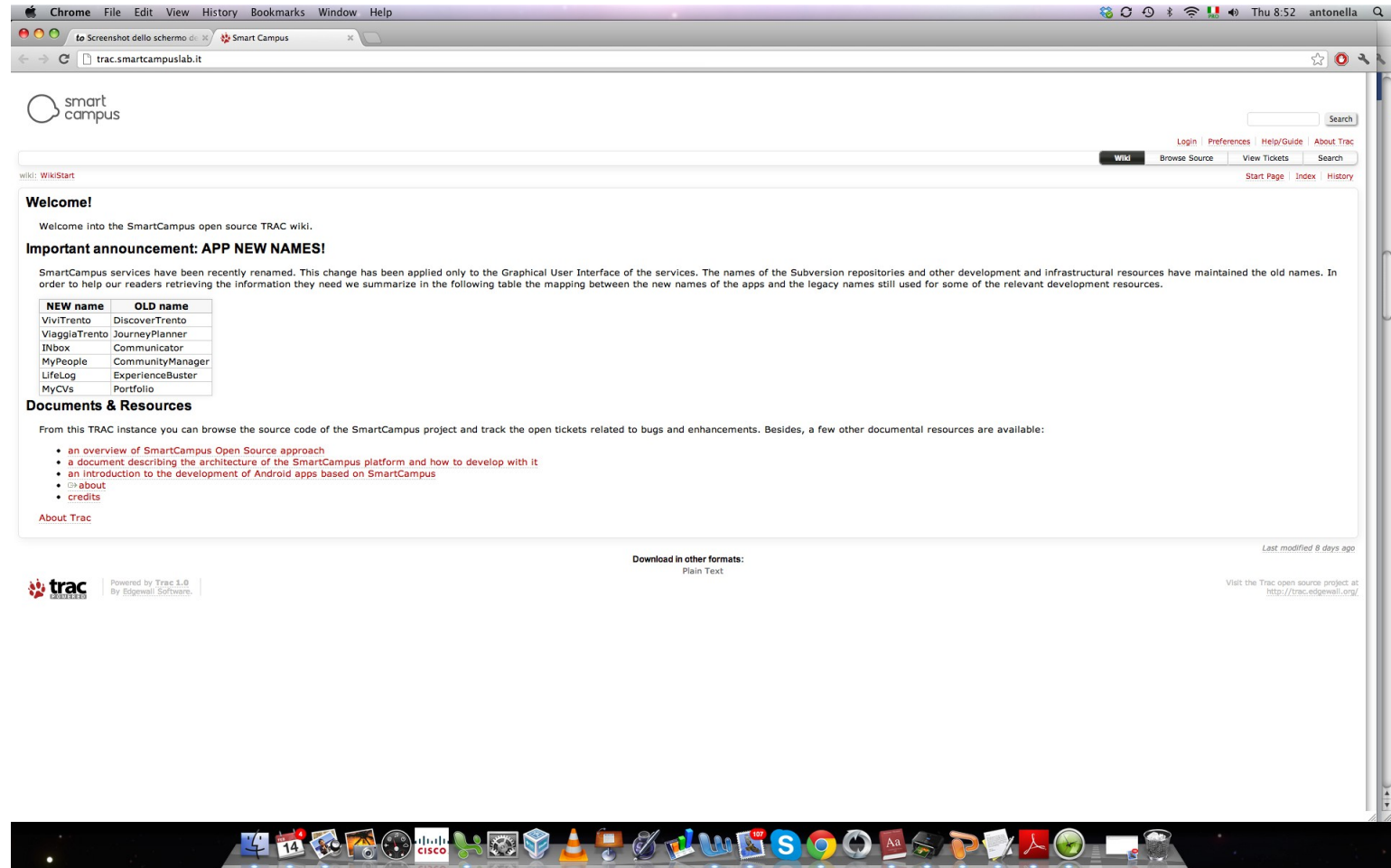


QUOTE

by [\[redacted\]](#) » Tue 27 Nov 2012, 22:04

Ho verificato: si tratta di un baco. Grazie per la segnalazione. Apro immediatamente un ticket presso i nostri sviluppatori per risolverlo al più presto. Grazie ancora!

GOING OPEN SOURCES





NEXT STEPS

MORE TESTING & DESIGN

Today: Diversify the community!

Participatory Design Seminar –
Faculty of Sociology: snowball approach

Next week: Let's play!

CSCW course – MSc Computer Science –
Gamification

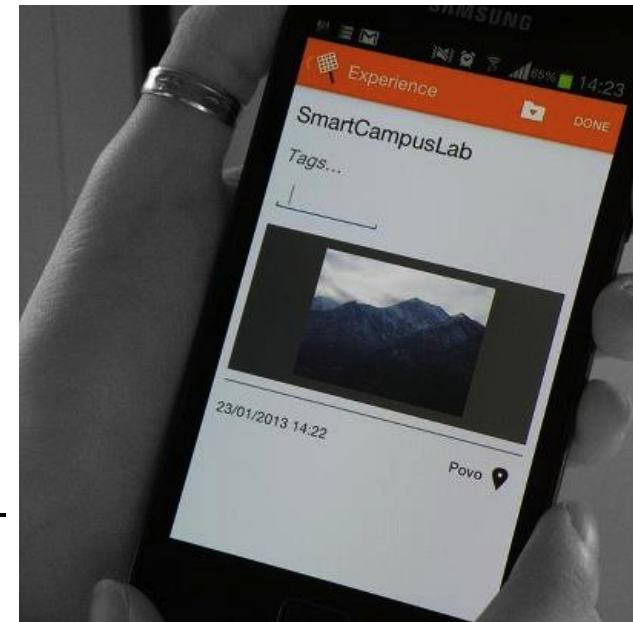
In 15 days: Moving to the city!

Vivi Trento & Viaggia Trento released to Trento Municipality:
500 users

From now on: BUILD, RESEARCH, BUILD, RESEARCH!

Enlarging the Lab: Interns, Thesis – setting the ground for
EUD

Elaborate a model/process for designing **SUCCESSFUL** services



CONCLUSION

RESEARCH:

One of the first real design in the WILD project – True Interdisciplinarity – Impact on the territory



EDUCATION:

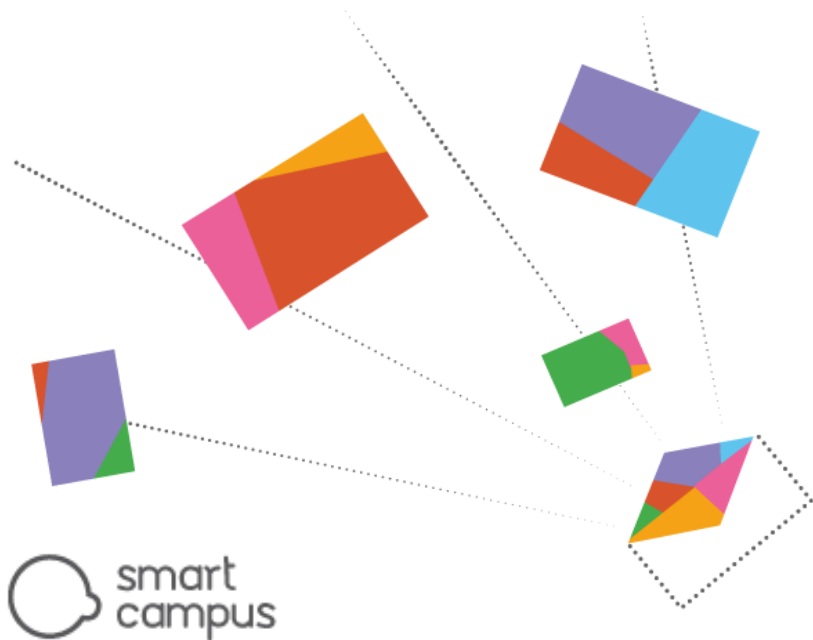
Best ever course-works, and lots of 30!
4 theses



BUSINESS:

We are moving into town ;-), bidding for new projects – understanding what is a territorial lab!!





Thank you!

Via alla Cascata 56CPovo di Trento,
38123Italy

info@smartcampuslab.it

www.smartcampuslab.it

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