UNIVERSITAT POLITÈCNICA
DE CATALUNYA
BARCELONATECH

BARCELONA SCHOOL OF INFORMATICS

Bachelor's thesis
Project Management Course (GEP)

Developing an HTML5 mobile application for Barcelona School of Informatics' Intranet

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July 20th, 2013

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1. Introduction

- 84% of mobile users cannot go a single day without their device.
- Smartphone usage grew in 2012 by 81%.
- 44% of smartphone owners have slept with their phone nearby because they did not want to miss a notification.

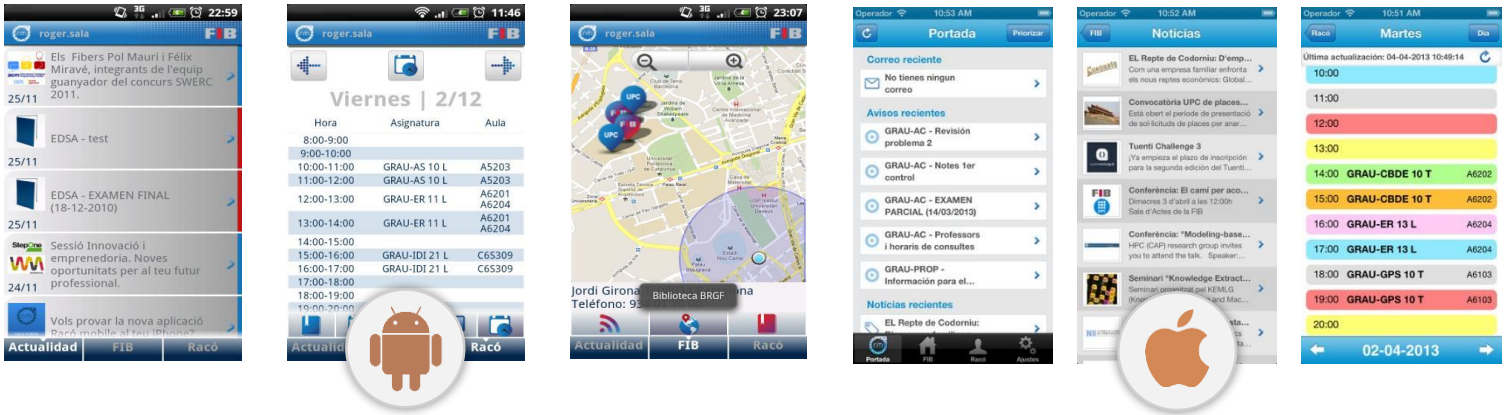
1. Introduction

- Mobile Internet traffic in 2012 was more than 12 times the entire Internet in 2000.

- 2013 is likely to be the year when mobile-connected devices will exceed world's population.

2. State of art

Available applications



- Developed as final Bachelor's thesis in 2011.
- Maintained and extended by inLabFIB.
- Offer support for the most used functionalities.

2. State of art

Satisfaction survey

- 70% of users have Android, 21% have iOS and 3% have Windows Phone.

- 56% of users considered existing apps less than “acceptable” in relation to performance.

- 35% of users considered existing apps less than “acceptable” in relation to aesthetics and usability.

2. State of art

Satisfaction survey

- 90% of Android users complained about speed while loading new information.

- 65% of iOS users complained about the inexistency of push notifications in the app.

3. Associated problems

- Unmaintainable solution for inLabFIB.
- Lots of users complaining about existing applications.
- Users without an application for their platform.
- Push notifications are not supported by all platforms.

4. Objectives

- This project has one clear SMART objective:

> *"To design, develop and test an HTML5 application for Barcelona School of Informatics' Intranet which works on any device* before January, 2014."*

* *Initially Windows Phone and Windows 8. iPhone and Android could be supported if time allows it.*

4. Objectives

- However, it can be divided in three sub objectives:

1. Provide existing users with a more useful and usable app for iPhone and Android.

2. Provide an app for Windows Phone and Windows Phone 8 to students and faculty staff.

3. Provide a more maintainable and extensible solution to inLabFIB.

5. Requirements

- The application must run in Windows Phone and Windows 8, as well as being compatible with iPhone and Android.

- The application must adapt its interface to each platform accordingly its guidelines.

- The application must be usable.

5. Requirements

- The application must have support for the following functionalities: subject notes, timetable, calendar, school and university news, subject information and syllabus.

- The application must load quickly and be fast.

6. Risks

Direct risks

- Important delays on project scheduling

  It will be controlled once a month to ensure it is correct or to change it properly.

- Incompatibility of any framework or feature with any supported platform

  We must ensure that a framework or feature will be compatible with all the supported platforms before implementing it.

6. Risks

Indirect risks

- Incompatibility with Intranet's public API

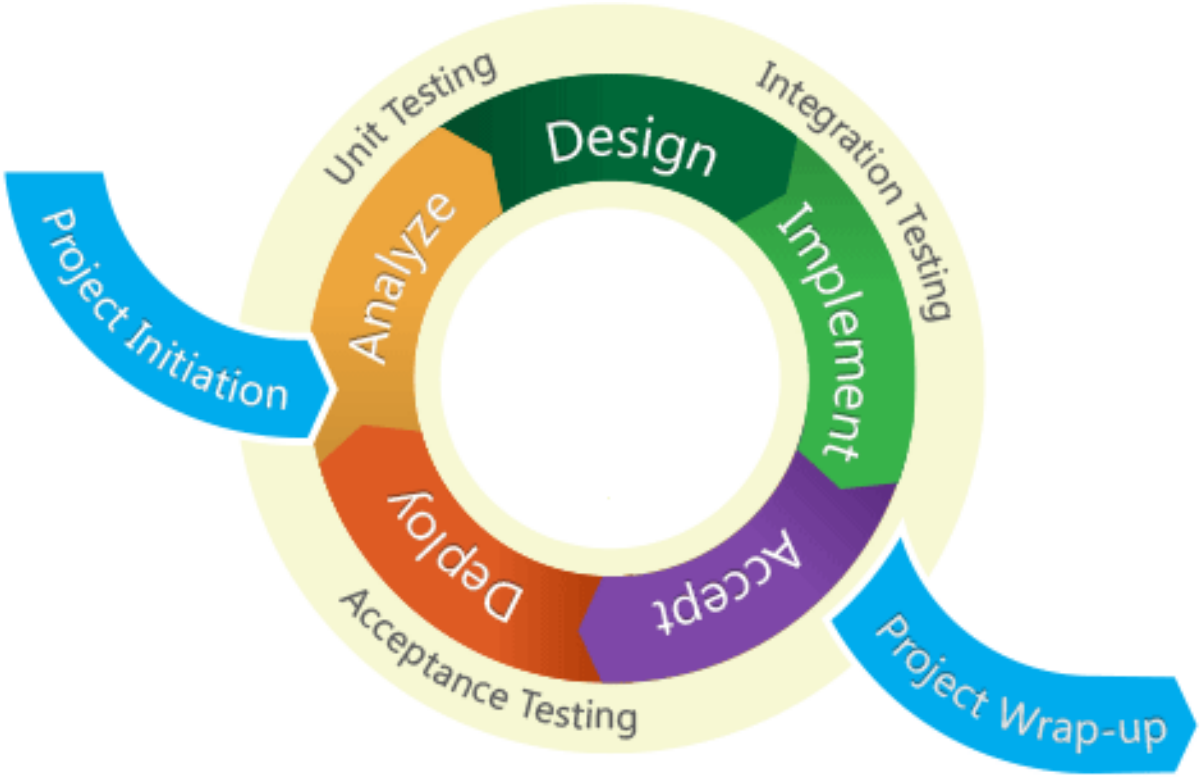
  An alternate API will be provided to develop the application and missing information or failure will be added or fixed, respectively.

- Failure of any testing device or computer

  Alternate software or hardware will be considered in the budget in this situation.

7. Methodology

Agile waterfall model



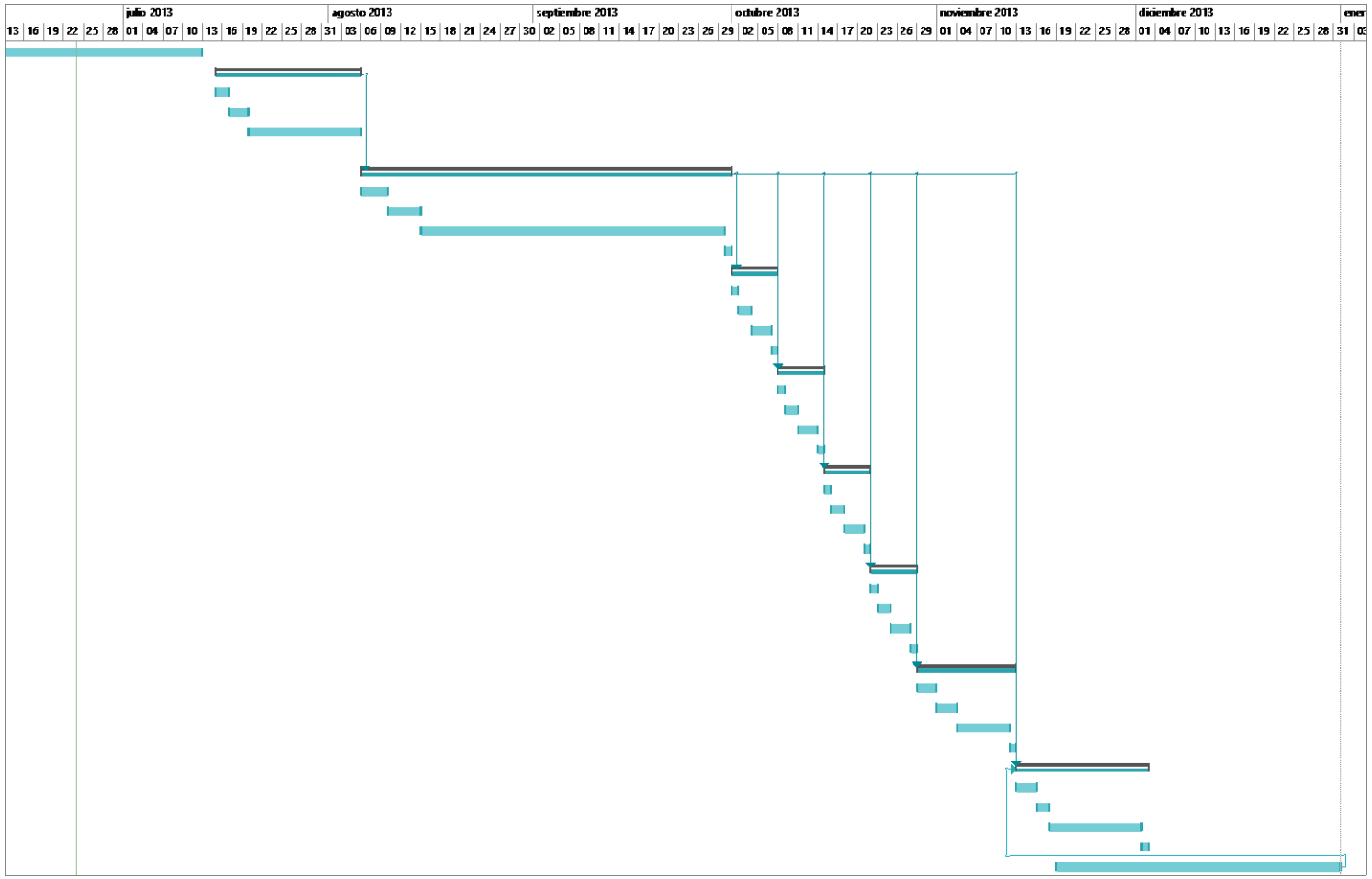
7. Methodology

Sprints and estimated hours

Task, sprint or stage	Expected hours
Analysis and feasibility study (this subject)	30 hours
Sprint 1: Project initialization and browser compatibility testing	100 hours
Sprint 2: Login logic, first feature and application interface basis	250 hours
Sprint 3: Subjects information	20 hours
Sprint 4: School and university news	20 hours
Sprint 5: Personal timetable	20 hours
Sprint 6: Configuration settings	20 hours
Sprint 7: Calendar and room availability	40 hours
Sprint 8: Push notifications	40 hours
Abstract and project ending	100 hours
Total	**640 hours**

7. Methodology

Gantt diagram



8. Resources and budget

Hardware

Product	Price	Units	Useful life	Total estimated amortization
Asus VivoBook S400CA	685,00 €	1	5 years	68,50 €
MacBook Pro[1]	1.229,00 €	1	5 years	122,90 €
Nokia Lumia 925	599,00 €	1	3 years	99,83 €
Microsoft Surface	489,00 €	1	4 years	61,13 €
Apple iPhone 5[1]	669,00 €	1	3 years	111,50 €
Apple iPad 3[1]	499,00 €	1	4 years	62,38 €
Google Nexus 4[1]	299,00 €	1	3 years	49,83 €
Google Nexus 10[1]	399,00 €	1	4 years	49,88 €
Total estimated	**4.868,00 €**			**625,94 €**

Other licenses

Product	Price	Units	Useful life	Total estimated amortization
GitHub premium service (private repositories)	6,10 € (7,99$)/month	1	6 months	36,60 €
Windows Phone Developer License	75,68 € (99$)/year	1	1 year	37,84 €
Apple Developer License[1]	75,68 € (99$)/year	1	1 year	37,84 €
Total estimated	**224,56 €/year**			**112,28 €**

8. Resources and budget

Software

Product	Price	Units	Useful life	Total estimated amortization
Visual Studio 2012 Professional	615,00 €	1	4 years	76,88 €
XCode[1]	0,00 €	1	N/A	0,00 €
ADT[1]	0,00 €	1	N/A	0,00 €
Sublime Text	53,45 € (70$)	1	4 years	6,68 €
Windows Phone SDK	0,00 €	1	N/A	0,00 €
iPhone SDK[1]	0,00 €	1	N/A	0,00 €
Android SDK[1]	0,00 €	1	N/A	0,00 €
Adobe Photoshop	24,59 €/month	1	6 months	147,54 €
Adobe Illustrator	24,59 €/month	1	6 months	147,54 €
Microsoft Office 365 Home Premium	9,99 €/month	1	6 months	59,94 €
Windows 8 Professional	69,99 €	1	3 years	Included on Asus VivoBook
Total estimated	**1.023,47 €**			**438,58 €**

Total budget

Concept	Estimated cost
Hardware	625,94 €
Software	438,58 €
Other licenses	112,28 €
Human resources	22.450,00 €
Total estimated cost	**23.626,80 €**

References

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Ortega, C. (March, 2013). *A survey carried out to Barcelona School of Informatics' students and staff has been added to the abstract as an appendix*.

Thank you.

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