Fault Manager Lite®

Project Proposal Presentation by *Triforce*

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Before getting started...

Who are we?

- Representatives from **Triforce**, the well-known software development company.

- We have already successfully developed more than 200 software systems for companies from all over the globe.

Why are we here?

- To show you the definitive answer to your all maintenance problems: our brand-new app, **Fault Manager Lite**.

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Introduction - Definition of the Problem

The **UAM** has organized a contest, ***AlertUAM***, to find the best project proposal of a software system that solves the potential **maintenance needs** it currently has:

- Inability to **detect faults** in the campus facilities in a short period of time.
- Late detection of faults implies that the **repairs** will be **delayed**, causing a problem to the users.
- **Lack of coordination** between the different sections of the maintenance service.

Introduction - Motivation

- ✓ Triforce wants to help the UAM with its **maintenance service problems**.
- ✓ We have designed a **web application**, Fault Manager Lite, that will help the maintenance service of the UAM to do their job **more efficiently**.
- ✓ FML software system will speed up the **detection** of faults in the campus facilities, accelerating their **troubleshooting**.
- ✓ Moreover, the assignment of tasks will also be automatized in order to **improve the coordination** of the maintenance staff.

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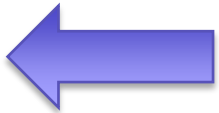


Project Definition - Our Proposal

- **Fault Manager Lite** (FML) is a web application specially designed considering the UAM's maintenance service needs.

- Based on the **jolly cooperation** between members of the campus and its maintenance staff, FML unifies a **fault report system** with a **task manager** with the aim of speeding up faults troubleshooting. Committed users will be **rewarded** with optional credits.

- When encountering a fault, it will take less than **2 minutes** for a user to report that fault, whose repair will be assigned to the **nearest** maintenance person, accelerating its mending.

Project Definition - Goals

The problems **we aim to alleviate** with this app include the following:

- Difficult and **late detection of faults** on the campus facilities, which causes a **late troubleshooting**.
- **Excessive** resources and time wasted on revisions looking for potential faults.
- **Manual assignment** of tasks.
- The **heterogeneous** nature of the current maintenance staff, as they are divided into different sections without **communicating** and **coordinating** efforts.
- Difficulty of the users to **report faults** to the maintenance service, as the report system lacks of any **mobility** functionality.
- No fault **history**.

Project Definition - Scope

- **Main Purpose:** Achieving the homogeneity between the different departments of the UAM maintenance service and the active collaboration of its members as fault reporters.

- **Similar applications:** Exhaustive research on the Internet states that our proposal surpases all existing applications because of the unique aggregate of functionalities FML will provide.

- **Milestones:** Starting in March 2015, the software system would be completely implemented by the end of the current course in June 2015, and then fully set up by the first semester of the new course in September 2015.

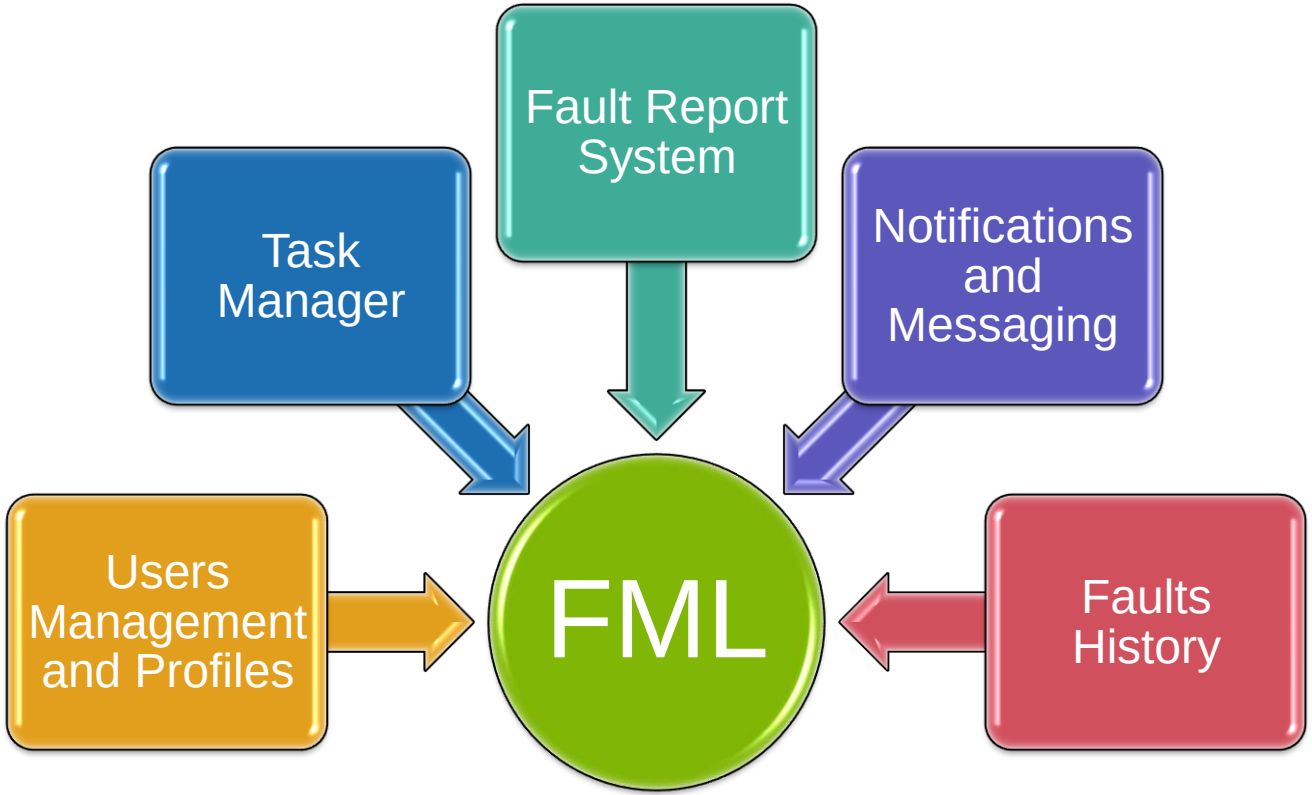
- **Costs:** Estimated total costs ascend to ~ 180,000 € (including development, salaries and personnel formation).

Project Definition - Previous definitions

- **FML's roles:** FML has 3 user roles.
  - Administrator.
  - Maintenance personnel (boss and employees).
  - Fault's Reporters (members of the UAM community).

- **Categories of maintenance:** The maintenance service of the UAM is quite decentralized into several different departments, attending to the issue they are in charge of. FML users may report faults to each of these departments:
  - Heating.
  - Plumbing.
  - Air conditioning.
  - Cleaning.
  - Information Technologies.
  - Elevators.
  - Electricity.
  - Trash Collection.
  - Gardeners.

FML - Subsystems



SRS - Functional

Fault report system

- **Report information**: Location, photograph, description, category, opinion about urgency.
- Each reported fault will have a **communication channel** via chat with the maintenance person in assigned to that fault.
- **Duplicated faults:**
  - FML will tag as *possible duplicated*.
  - All *possible duplicates* will be assigned to the same person.
  - When reporting a fault, FML will ask if it is duplicated

SRS - Functional

Task manager

- **Faults definition:** 3 possible states: *Pending to assign, assigned, solved.*
- **Categorizing:** Department, estimated difficulty, urgency.
- **Assignments:** Automatically (if possible) depending on category.
- **Fault fixed:** Marked as solved and notify and thanked the reporter.

SRS - Functional

Users and Profile manager

- **Log in:** UAM credentials and special case of smartphone.
- **Profile.**
- **Update profile** information.
- **Capabilities** of each role:
  - Admin: can create new users.
  - Department boss: create new employees.
  - Employees and reporters: none.

SRS - Functional

Notifications and messaging

- **Questions** from maintenance personnel answered by reporters.
- **Emergency message**: Notifying when some emergency occurs.
- **Notifications** every fault assignment.

SRS - Functional

Faults history

- Based on transparency ⟶ Faults accessible to all users.
- You will see more in a minute.

SRS - Non Functional

- **Lightweight application:** FML will be lightweight enough to be ran in 4 years old Chrome, Firefox, IE's versions.
- High **usability**, only an introductory seminar (or nothing at all) will be needed to use it.
- FML will be **available** for Android, Windows Phone and IOS.
- The **security** of the application is given by the UAM login system.
- Fault reports are stored in a database which will be **backed-up** once a month.

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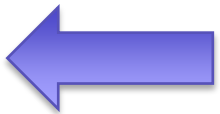
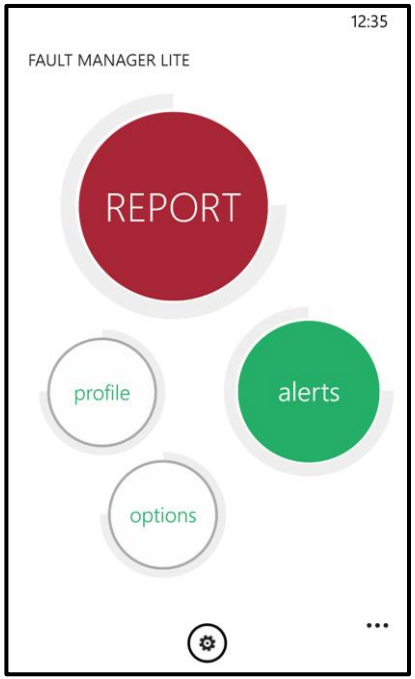
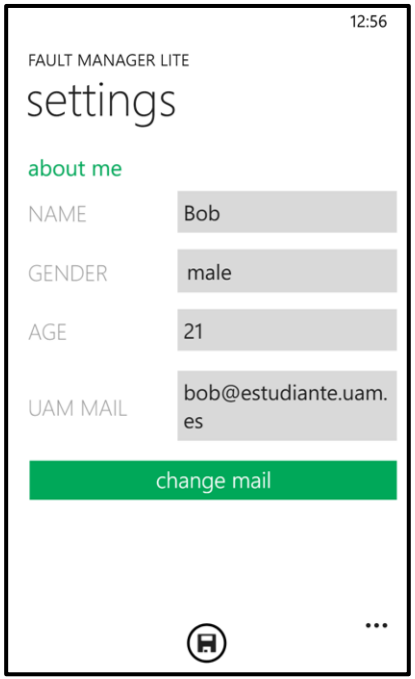


Conceptual and Visual Design of the Interaction

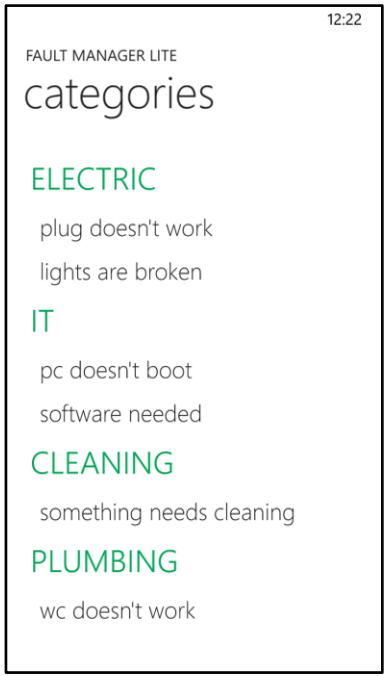
Easy to learn (you don’t even have to learn it) and to use

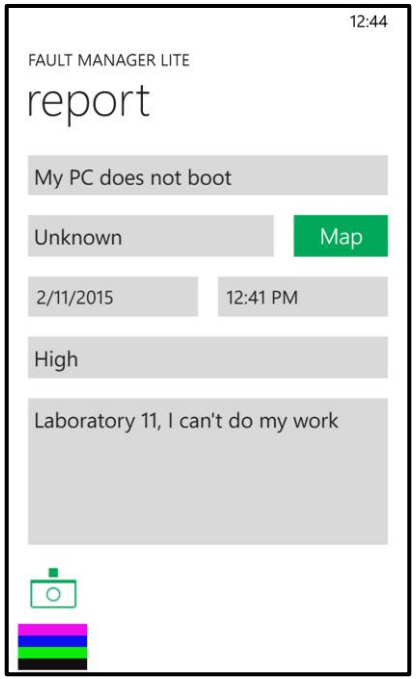


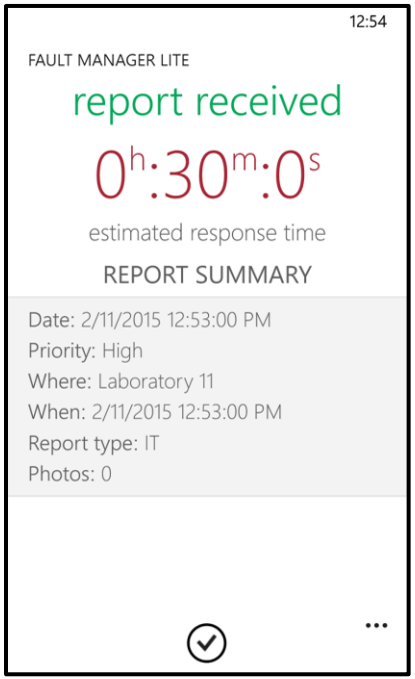


Conceptual and Visual Design of the Interaction

Fault report

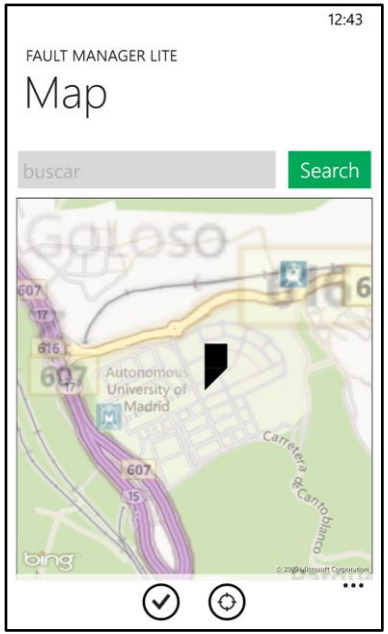


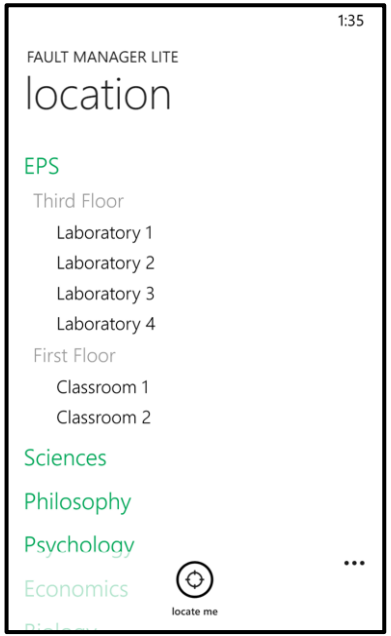




Conceptual and Visual Design of the Interaction

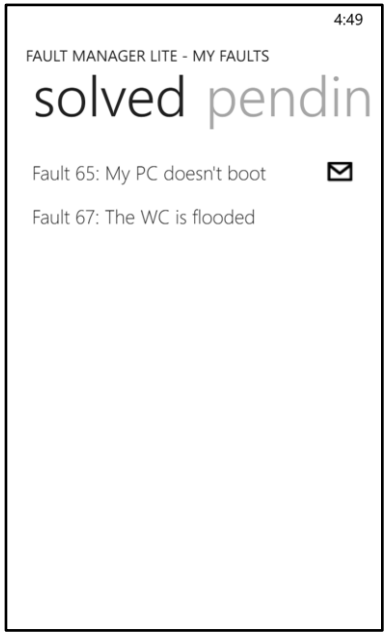
Where is the fault located?

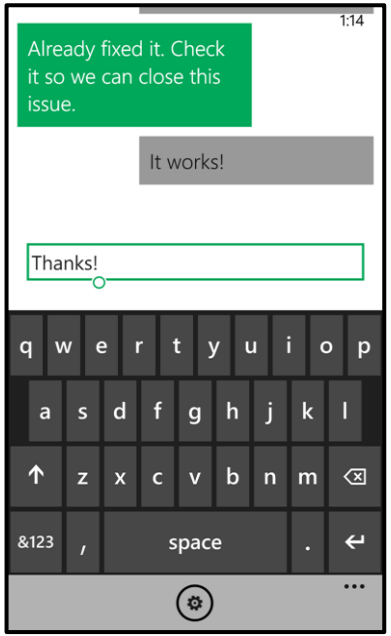




Conceptual and Visual Design of the Interaction

How’s the repair going?





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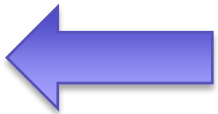

Conclusions

- ✓ FML provides **great opportunity** to give the UAM's current maintenance service a 180 degree turn, as it will solve its most urgent problem achieving an **early detection of faults** on the facilities thanks to their users.

- ✓ Additionally, it will also help the **centralization** of the maintenance service, whose departments are nowadays quite independent.

- ✓ However, **GPS localization inside buildings** will not identify the exact location of a fault, requiring that the users fill the location field of the report. We also depend on the users to detect **repeated faults** for the same reason, as the system cannot distinguish between two faults of the same type located in a small area.

- ✓ Therefore, we must achieve **users collaboration** for FML to be a success.

‘That’s All Folks!’

Thank you for your attention.
We hope you enjoyed our presentation.

Question Time!