

Specification Document

Project Manager App

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1-Introduction

Since the arrival of smartphones, developers can stay in touch with their teammates and share files easily at anytime. However, it can be fastidious for a project manager to keep track of everyone's job. When developers are away or if they're simply not working in the same place, an important number of communication links are necessary to keep the project running while knowing what everyone is doing. That's why it might be interesting to develop a project manager application for smartphones that could help the project manager by having an overview of the evolution of the project and also help the developers by giving them the opportunity to tell what they are doing quickly. This system will consist of creating projects and listing their different tasks following the scrum framework. Then, the developers will choose their tasks and update their progressions each time they stop working. The users will have access to the server hosting these information thanks to a web browser or an Android application.

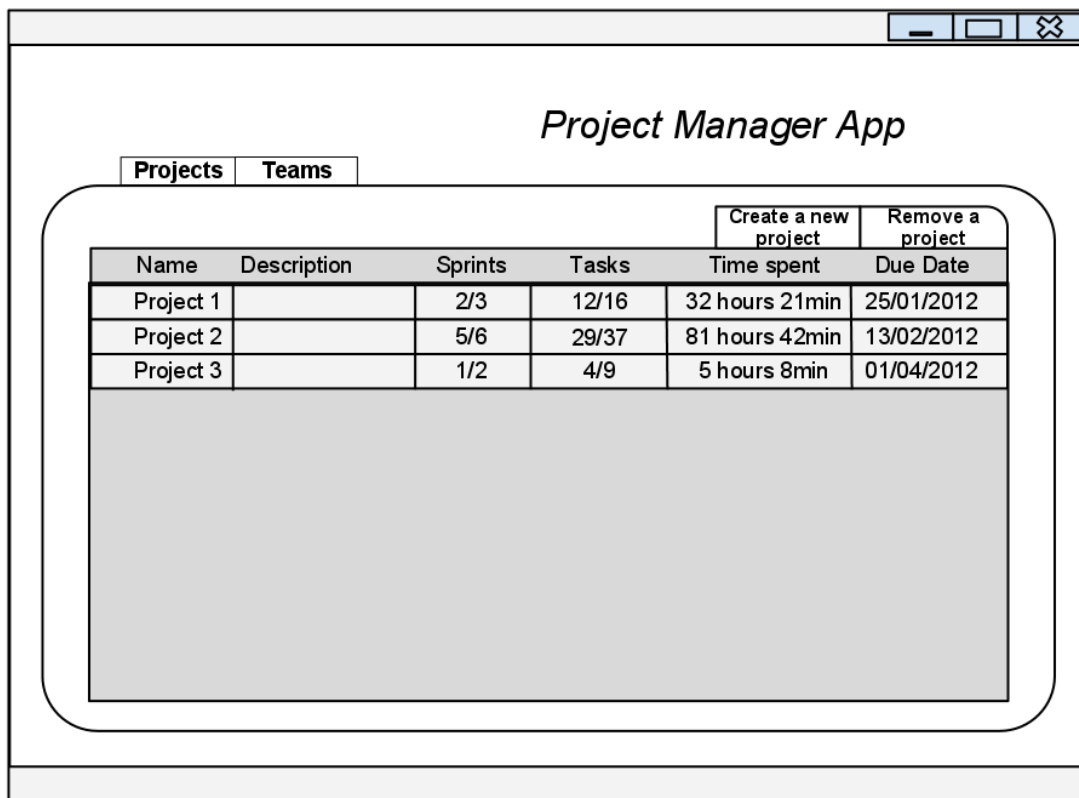
2-Product Description

Project management

The product should allow users to manage and show their participation to a project which will have all its tasks hosted online. Projects will respect the scrum [SCRUM] framework, therefore, our projects will be divided into sprints of a certain duration and those sprints will contain tasks.

Globally, we will have three main menus, one displaying all our projects, a second for all the sprints of each project and a last one for all the tasks of each sprints.

The project menu will appear as a list of project with, for each project, its name, a short description, the total number of sprints, the total number of tasks, the time spent on this project, the time expected to get it done and the due date.



The screenshot shows a window titled "Project Manager App". At the top, there are two tabs: "Projects" (selected) and "Teams". Below the tabs, there are two buttons: "Create a new project" and "Remove a project". The main content area contains a table with the following data:

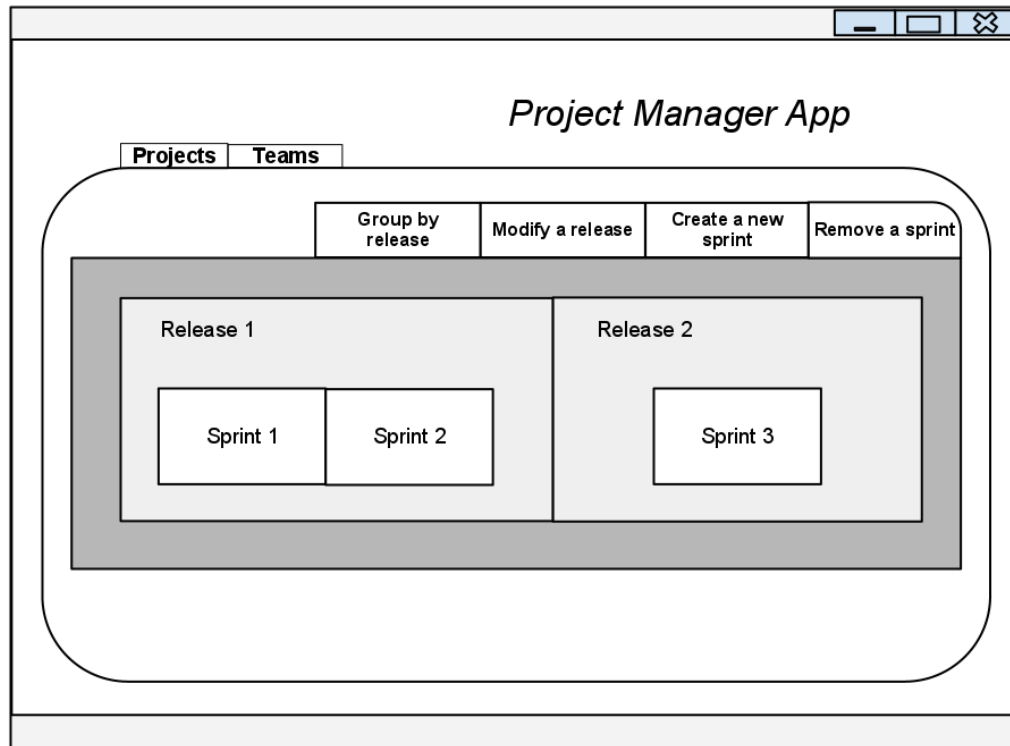
Name	Description	Sprints	Tasks	Time spent	Due Date
Project 1		2/3	12/16	32 hours 21min	25/01/2012
Project 2		5/6	29/37	81 hours 42min	13/02/2012
Project 3		1/2	4/9	5 hours 8min	01/04/2012

Below the table is a large grey rectangular area, likely a placeholder for more content or a scrollable list.

Example of menu for our projects.

The sprints menu will display all the sprints of a project. However, only one sprint can be running at a time as it represents the iteration that we are working on. For each sprints, we will display the time spent on it, the starting date, the expected date of completion and the number of developers working on this sprint. Of course, managers will be able to set up future sprints but developers will not be allowed to work on them, they will only be able to see the different and

only the current sprint will be available. Plus, sprints will be regrouped by “release” to keep our project tidy.

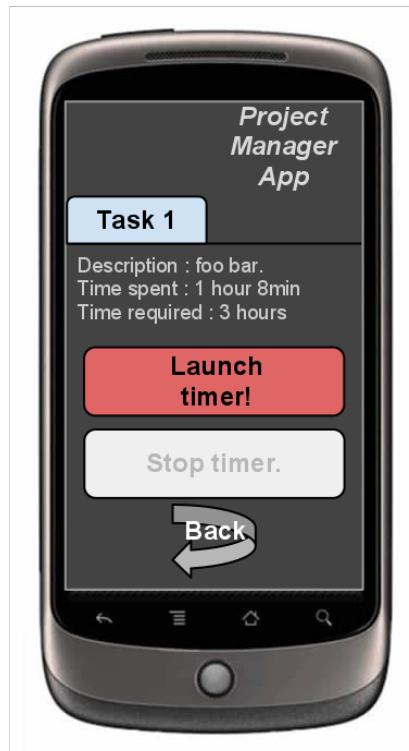


Example of menu for the sprints of a project. Sprints are regrouped by release.

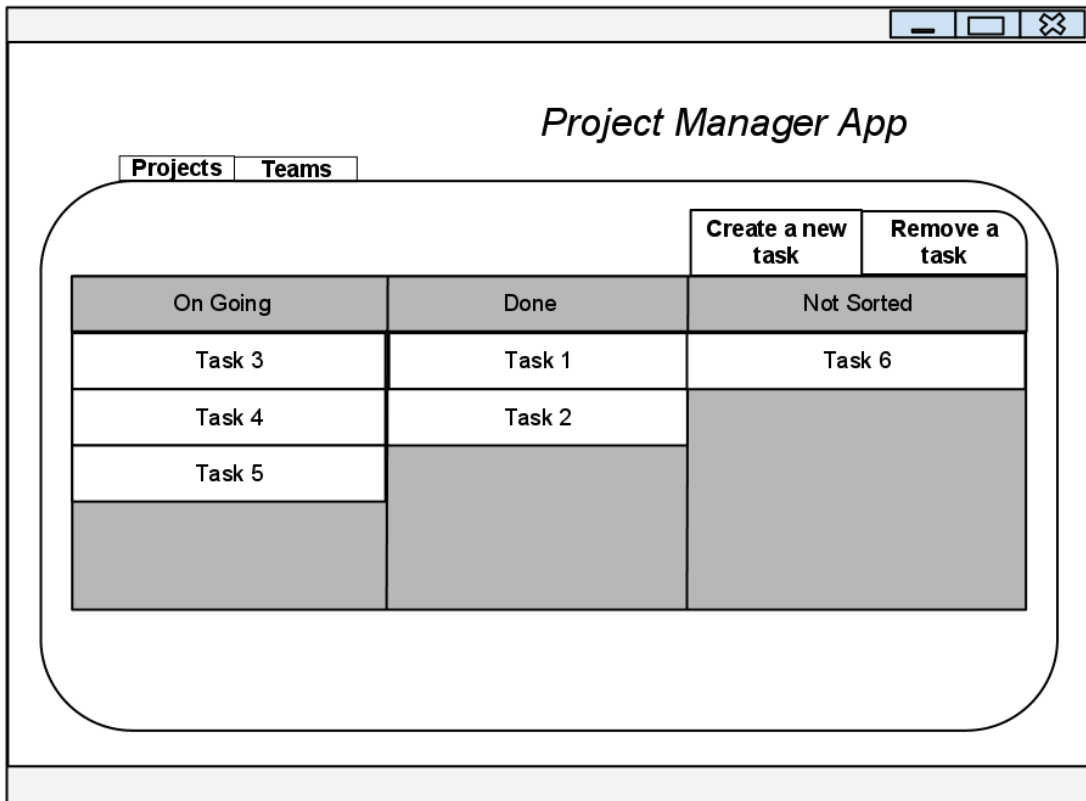
The tasks menu will display all the tasks of a sprint with their name, a short description, the time expected to get it done, the time already spent on it, the developers who have worked and those who are working on it. Those tasks will be displayed in a table of 3 columns : Done, On going, Not sorted. Plus, we will keep a log of all the actions related to a task.



Mobile phone version of the task menu.



Menu allowing developers to see the details and launch the timer for a task.



Example of menu for the tasks contained in a sprint.

From those menus, managers will be able to create or remove projects, sprints and tasks while developers will only be able to choose one of the tasks of the current sprint of a running project and launch the timer when they're ready to work on this task, the time spent on it will be automatically added.

Roles & Team

An administrator will first be able to create new managers and new companies. Users are always associated to only one company. Users from a company will only see their workmates and the projects created by their company.

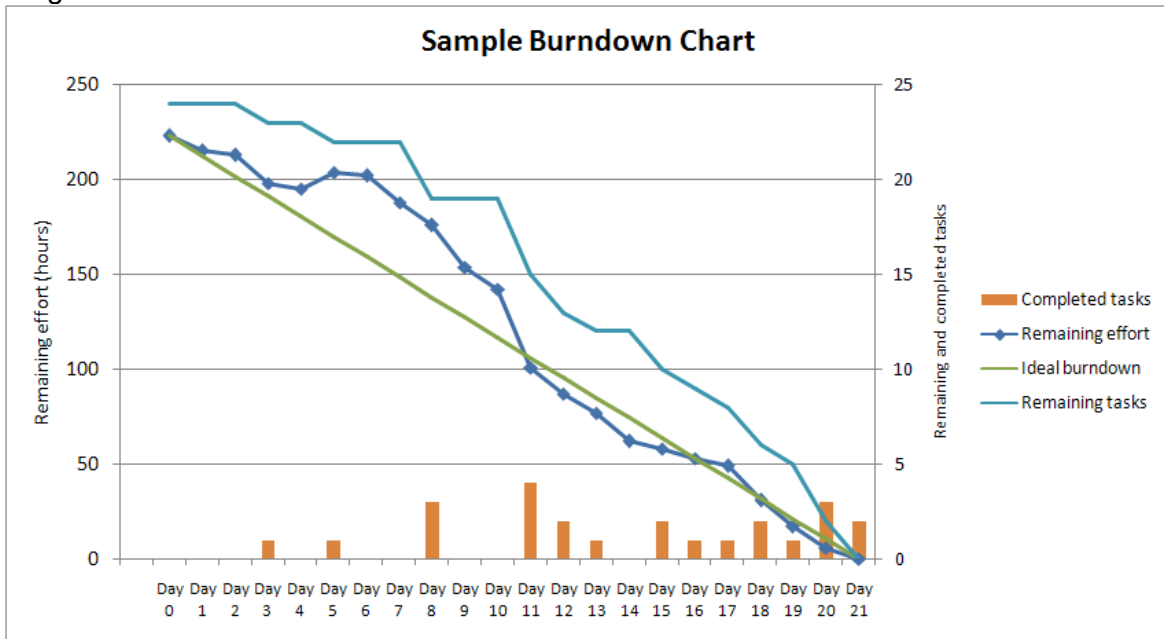
Then, managers will be able to create new managers or developers for their own company. According to the scrum terminology, a manager is the scrum master while a developer is a simple member of team.

To manage the access to the different projects, it is important to create teams. For every single new project, a team shall be assigned and only members of this team will see the project. It shall be possible to save a team, to use it later for another project.

When a manager creates a project, they will define a team. The manager who creates the project is automatically the scrum master.

Charts

Our application shall display charts representing the daily progress for a sprint over the sprint's length. This type of chart is also called sprint burn down chart. In the example of burn down chart below, we can notice that as long as the blue lines are over the green line, the project is running behind the schedule.



Sample of a Burndown Chart [WKSBC]

A few other charts is required to give a quick overview of the time spent on the project, for example, an expected date for the project to be done following the average of work done per day. So it is extremely important to keep track of every action for every single day if we want to be able to draw those charts.

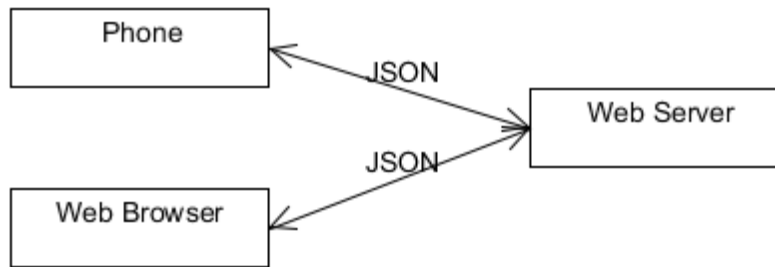
Communication client/server

The product will be split into two parts, a mobile part and a web part.

The mobile application will work differently depending of the role of the person using it. For managers, they should be able to create new teams, new projects and new tasks whilst developers will only have access to the task selection and the timer feature.

The web part of the project will allow administrators to create new accounts. Plus, managers and developers could have an overview of the projects with the different tasks and some charts.

The communication between the mobile part and the server will be performed thanks to JSON technology. [JSON]



JSON is a lightweight data-transfer protocol which provides an easy readable format. Here is an example to send a login :

```
{  
  "login": {  
    "username" : "foo",  
    "password" : "bar"  
  }  
}
```

3-Requirements

Usability

The mobile app should run on Android 2.1 or more.

The website should be compatible with the latest web browsers such as Mozilla firefox or Chrome.

Reliability

As this tool will be used for project management, it's very important to keep a high rate of reliability because any unavailability could cause an important loss of money as the team wouldn't be able to work. However, the whole project does not need to be highly reliable. If the mobile application crashes, only a few seconds would be lost to restart the application while, if the web server does not work, the team cannot work properly.

To test our system, we will start by checking if the time to answer to a request is respectable for a professional usage. In case of interruption during a transfer from the client to the server, the system will have to keep working correctly and the data will be saved, waiting to be sent again later.

Then, we will test the stamina of our system by creating an important number of projects, sprints, teams and users.

Performance

Basically, the server will have to support requests and provide the information required by the client to generate the different charts.

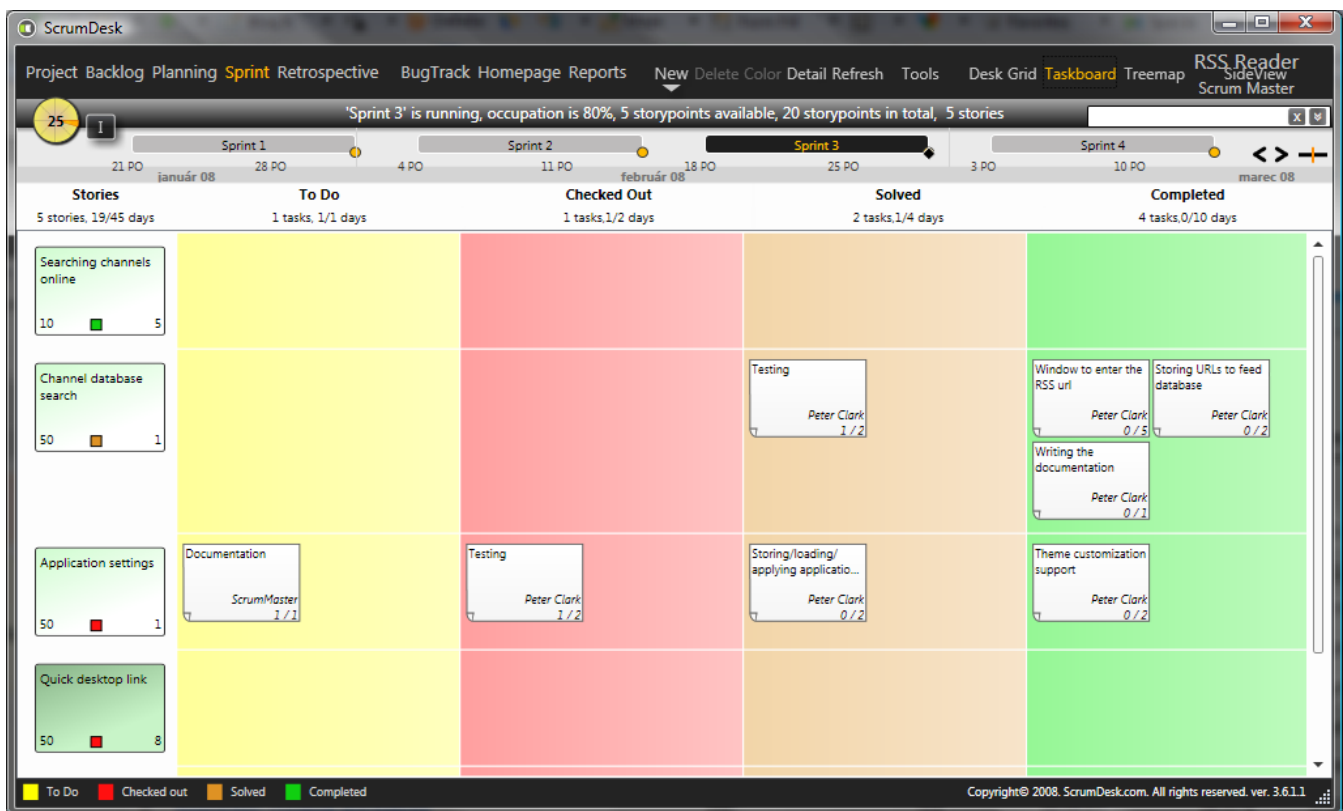
Supportability

The design of the application should allow changes to the code and the database.

4-Similar systems

A few similar systems already exists but none of them have a mobile application running on Android. Nevertheless, there are Android applications permitting to manage a scrum project but those applications do not include any kind of online interactions.

The tools which are closest to our project are ScrumDesk [SCDK] and OnTime11 [OT11] because they both provide all the features that we plan to implement. However, these tools only runs on Windows or IOS. The different boards of ScrumDesk correspond pretty well to what we expect to build, so it permits to have an idea of the future design of our website and our application. As seen below, the task board of ScrumDesk follows the same design as ours.



Task board of ScrumDesk [SCTB]

Another tool named VersionOne is quite interesting because of the fact that it is open source. By this way, it could help to see how they've built this software. [VS1]

5-References

[JSON] JSON, <http://json.org/>

[OT11] Axosoft LLC, *Scrum software - Agile bug, Issue, and Defect Tracking Software*, <http://www.axosoft.com/>

[SCDK] ScrumDesk, *ScrumDesk -- scrum project management tool*, <http://www.scrumdesk.com/>

[SCTB] ScrumDesk, *Screenshots*, <http://www.scrumdesk.com/screenshots/>

[SCRUM] Wikipedia, *Scrum*, [http://en.wikipedia.org/wiki/Scrum_\(development\)](http://en.wikipedia.org/wiki/Scrum_(development))

[VS1] VersionOne, *Agile Project Management, Agile Development and Scrum Tool | VersionOne*, <http://www.versionone.com/>

[WKSBC] Wikipedia, *Scrum*, <http://en.wikipedia.org/wiki/File:SampleBurndownChart.png>