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| PS2Win |
| Software Development Plan |
| Keep Your Time |

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| Filipe Brandão  23-03-2013 |

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|  |  |  |  |
| --- | --- | --- | --- |
| **Authors and Contributors** | | | |
| **Date** | **Name** | **Contacts** | **Contribution** |
| 08-03-2013 | Filipe Brandão | a21180276@alunos.isec.pt | Author |
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| 15-04-2013 | Rui Ganhoto | a21170262@alunos.isec.pt | Contributor |
|  |  |  |  |
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|  |  |  |  |

Table 1: List of Contribuitors

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Revision History** | | | | | |
| **Date** | **Description** | **Author** | **Version** | **Approvers** | **State** |
| 23-03-2013 | Creation of first draft | Filipe Brandão | 0.1 |  | Draft |
| 01-04-2013 | Continuing first draft | Filipe Brandão | 0.2 |  | Draft |
| 03-04-2013 | Added more details | Filipe Brandão | 0.3 |  | Draft |
| 07-04-2013 | Added schedule and resources allocation. Finished all the chapters. | Filipe Brandão | 0.4 |  | Ready for Revision |
| 12-04-2013 | Updated project tracking and references to other files. | Filipe Brandão | 0.5 |  | Ready for Revision |
| 13-04-2013 | Document reviewed | Mário Oliveira | 0.5 |  | Ready for Revision |
| 13-04-2013 | Defects Corrected | Filipe Brandão | 0.5 |  | Ready for Approval |
| 14-04-2013 | Document approved |  | 0.5 | Carla Machado | Ready for Approval |
| 15-04-2013 | Document approved |  | 0.5 | Rui Ganhoto | Ready for Approval |
| 15-04-2013 | Baselined | Filipe Brandão | 1.0 |  | Baselined |
| 20-04-2013 | Proposed changes to Milestones dates | Filipe Brandão | 1.0 | Carla Machado & Rui Ganhoto | Draft |
| 20-04-2013 | Updated milestones dates. Changing state. | Filipe Brandão | 1.1 |  | Ready for Revision |
| 20-04-2013 | Document reviewed | Mário Oliveira | 1.1 |  | Ready for Revision |
| 21-04-2013 | Changing State | Filipe Brandão | 1.1 |  | Ready for Approval |
| 24-04-2013 | Approved |  | 1.1 | Carla Machado | Ready for Approval |
| 24-04-2013 | Approved |  | 1.1 | Rui Ganhoto | Ready for Approval |
| 24-04-2013 | Baselined | Filipe Brandão | 2.0 |  | Baselined |
| 18-05-2013 | Change Request: update milestones according to the Process update | Filipe Brandão | 2.0 |  | Baselined |
| 18-05-2013 | Request Approved |  | 2.0 | Carla Machado & Rui Ganhoto | Baselined |
| 18-05-2013 | Changed milestones | Filipe Brandão | 2.1 |  | Draft |
| 18-05-2013 | Changing State | Filipe Brandão | 2.1 |  | Ready for Revision |
| 18-05-2013 | Document Reviewed | Mário Oliveira | 2.1 |  | Ready for Revision |

Table 2: Version history

# Scope Statement

The goal of this project is to develop a time tracking software, coupled with a mobile platform thus enabling more portability while providing a new way of interaction.

# Life Cycle

This project will follow a waterfall model based on these phases:

Requirements Analysis

Design & Construction

Verification & Validation

Phases description:

* Requirements Analysis – elicitation and requirements analysis.
* Design & Construction – database design and software coding (including unit testing).
* Verification & Validation – Acceptance tests and delivery.

The interception between “Requirements Analysis” and “Design & Construction” means that the database design will start when the Software Requirements Specification is still under review.

# Milestones

The milestones identified for this project are:

* **KickOff Meeting - 8th of April**
* **SRS Review – 6th of May**
  + Marks the end of the production of the SRS (meaning it is ready for review).
* **Code Review – 29th of May**
  + Marks the end of the coding phase.
* **Acceptance – 3rd of June**
  + Marks the end of the acceptance phase and the whole project.

# Deliverables

The main deliverables for this project are:

* Vision and Scope;
* Software Development Plan;
* Quality Plan;
* Test Plan;
* Software Requirements Specification;
* Risk Plan;
* Software source code and binaries;
* Review Reports;
* Post-Mortem Report.

# Work Breakdown Structure

The following items are the result of an early work breakdown (not including management tasks):

1. Requirements
   1. Requirements gathering and analysis
      1. Elicitation (brainstorm) + Use Case Diagram (draft) – 7 members
      2. Use cases definition + Mockups + Business Rules – 3 members
      3. Requirements definition + SRS production - 2 members
   2. Acceptance tests planning – 2 members
   3. Risk meeting – 7 members
   4. SRS Inspection
      1. Planning + Preparation – 7 members
      2. Meeting – 7 members
      3. Rework + Follow-up – 2 members
   5. Re-estimation – 5 members
2. Development
   1. Database
      1. Architecture definition (Entity Relationship diagram) - 2 members
      2. Walkthrough – 7 members
      3. Module implementation – 1 member
   2. Coding (Including UI and Unit testing)
      1. Show tasks listing– 1 member
      2. Show task details – 1 member
      3. Adding tasks– 1 member
      4. Alerts inactivity – Detection – 1 member
      5. Alerts inactivity - User reaction – 1 member
      6. Timing individual tasks – 1 member
      7. Exporting the application data - 1 member
      8. Edit and delete task – 1 member
   3. Inspection of a code module
      1. Planning + Preparation – 7 members
      2. Meeting – 7 members
      3. Rework + Follow-up – 2 members
3. Acceptance tests
   1. Execution – 2 members
   2. Fixing – 3 members

# Resources

The identified resources for this project and their weekly availability is:

* Carla Machado – 3.5 hours
* David João - 6 hours
* Filipe Brandão – 3.5 hours
* João Girão – 6 hours
* João Martins – 6 hours
* Mário Oliveira – 6 hours
* Rui Ganhoto – 6 hours

Carla Machado and Filipe Brandão will also spend 2.5 effort hours in project management tasks.

# Estimation

The following values are a result of an early estimate based on Planning Poker using the work breakdown structure. This estimation doesn’t include management tasks and represent the total effort for each task.

1. Requirements
   1. Requirements gathering and analysis
      1. Elicitation (brainstorm) + Use Case Diagram (draft) – **13 hours**
      2. Use cases definition + Mockups + Business Rules – **13 hours**
      3. Requirements definition + SRS production - **20 hours**
   2. Acceptance tests planning – **13 hours**
   3. Risk meeting **– 0.75 hour (not poker planned)**
   4. SRS Inspection
      1. Planning + Preparation – **13 hours**
      2. Meeting – **20 hours**
      3. Rework + Follow-up – **8 hours**
   5. Re-estimation – **10 hours (not poker planned, based on previous experience)**
2. Development
   1. Database
      1. Architecture definition (Entity Relationship diagram) - **3 hours**
      2. Walkthrough – **13 hours**
      3. Module implementation – **5 hours**
   2. Coding (Including UI and Unit testing)
      1. Show tasks listing – **5 hours**
      2. Show task details – **5 hours**
      3. Adding tasks– **5 hours**
      4. Alerts inactivity – Detection – **8 hours**
      5. Alerts inactivity - User reaction – **8 hours**
      6. Timing individual tasks – **5 hours**
      7. Exporting the application data – **8 hours**
      8. Edit and delete tasks – **5 hours**
   3. Inspection of a code module
      1. Planning + Preparation – **13 hours**
      2. Meeting – **20 hours**
      3. Rework + Followup – **8 hours**
3. Acceptance tests
   1. Execution - **13 hours**
   2. Fixing – **20 hours**

These tasks accomplish a total of 255 hours. Accordingly to each resource availability, there are 296 hours of effort the whole project. So, this project has 41 hours that can be used as a slack to unexpected tasks or tasks that need more effort to accomplish than the expected.

# Resource Allocation

The tasks allocated for each resource and their effort (hours) are listed below.

|  |  |
| --- | --- |
| **Carla Machado** | |
| Elicitation (brainstorming) + Use Case Diagram (draft) | *1,86* |
| Risk meeting | *0,75* |
| Acceptance tests planning | *6,5* |
| SRS inspection - Planning + Preparation | *1,86* |
| SRS inspection - Meeting | *2,86* |
| Re-estimation | *2* |
| DB - Walkthrough | *1,86* |
| Code inspection - Planning + Preparation | *1,86* |
| Code inspection - Meeting | *2,86* |
| Acceptance tests - Execution | *6,5* |
| **TOTAL EFFORT** | **28,91** |

Table 3 - Taks of Carla Machado

|  |  |
| --- | --- |
| **David João** | |
| Elicitation (brainstorming) + Use Case Diagram (draft) | *1,86* |
| Risk meeting | *0,75* |
| Requirements Definition + SRS production | *10,00* |
| SRS inspection - Planning + Preparation | *1,86* |
| SRS inspection - Meeting | *2,86* |
| SRS Inspection - Rework + Follow-up | *4,00* |
| Walkthrough | *1,86* |
| Adding tasks | *5,00* |
| Timing individual tasks | *5,00* |
| Code Inspection - Planning + Preparation | *1,86* |
| Code Inspection - Meeting | *2,86* |
| Acceptance tests – Fixing | *6,50* |
| **TOTAL EFFORT** | **44,41** |

Table 4 - Tasks of David João

|  |  |
| --- | --- |
| **Filipe Brandão** | |
| Elicitation (brainstorming) + Use Case Diagram (draft) | 1,86 |
| Use Cases definition + Mockups + Business Rules | 4,4 |
| Risk meeting | 0,75 |
| SRS inspection - Planning + Preparation | 1,86 |
| SRS inspection - Meeting | 2,86 |
| Re-estimation | 2 |
| Architecture definition (ER diagram) | 1,5 |
| Walkthrough | 1,86 |
| Code Inspection - Planning + Preparation | 1,86 |
| Code Inspection - Meeting | 2,86 |
| Acceptance tests - Execution | 6,5 |
| **TOTAL EFFORT** | **28,31** |

Table 5 - Tasks of Filipe Brandão

|  |  |
| --- | --- |
| **João Girão** | |
| Elicitation (brainstorming) + Use Case Diagram (draft) | 1,86 |
| Use Cases definition + Mockups + Business Rules | 4,4 |
| Risk meeting | 0,75 |
| SRS inspection - Planning + Preparation | 1,86 |
| SRS inspection - Meeting | 2,86 |
| Re-estimation | 2 |
| Walkthrough | 1,86 |
| Show tasks details | 5 |
| Export app data | 8 |
| Code Inspection - Planning + Preparation | 1,86 |
| Code Inspection - Meeting | 2,86 |
| Acceptance tests - Fixing | 6,5 |
| **TOTAL EFFORT** | **39,81** |

Table 6 - Tasks of João Girão

|  |  |
| --- | --- |
| **João Martins** | |
| Elicitation (brainstorming) + Use Case Diagram (draft) | 1,86 |
| Risk meeting | 0,75 |
| Requirements Definition + SRS production | 10 |
| SRS inspection - Planning + Preparation | 1,86 |
| SRS inspection - Meeting | 2,86 |
| SRS inspection - Rework + Follow-up | 4 |
| Architecture definition (ER diagram) | 1,5 |
| Walkthrough | 1,86 |
| Inactivity Alerts (detection) | 8 |
| Code Inspection - Planning + Preparation | 1,86 |
| Code Inspection - Meeting | 2,86 |
| **TOTAL EFFORT** | **37,41** |

Table 7 - Tasks of João Martins

|  |  |
| --- | --- |
| **Mário Oliveira** | |
| Elicitation (brainstorming) + Use Case Diagram (draft) | 1,86 |
| Use Cases definition + Mockups + Business Rules | 4,4 |
| Risk meeting | 0,75 |
| SRS inspection - Planning + Preparation | 1,86 |
| SRS inspection - Meeting | 2,86 |
| Re-estimation | 1,5 |
| Walkthrough | 1,86 |
| Show tasks listing | 5 |
| Inactivity alerts (user reaction) | 8 |
| Code Inspection - Planning + Preparation | 1,86 |
| Code Inspection - Meeting | 2,86 |
| Acceptance tests – Fixing | 6,5 |
| **TOTAL EFFORT** | 39,31 |

Table 8 – Tasks of Mário Oliveira

|  |  |
| --- | --- |
| **Rui Ganhoto** | |
| Elicitation (brainstorming) + Use Case Diagram (draft) | *1,86* |
| Risk meeting | *0,75* |
| Acceptance tests planning | *6,50* |
| SRS inspection - Planning + Preparation | *1,86* |
| SRS inspection - Meeting | *2,86* |
| Re-estimation | *1,50* |
| Walkthrough | *1,86* |
| Database Module Implementation | *5,00* |
| Edit and Delete task | *5,00* |
| Code Inspection - Planning + Preparation | *1,86* |
| Code Inspection - Meeting | *2,86* |
| Code Inspection - Rework + Follow-up | *4,00* |
| **TOTAL EFFORT** | 35,91 |

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Table 9 - Tasks of Rui Ganhoto

For a calendarized and updated view of the tasks and their resources, open the file “Gant.mpp” that can be found in the team repository.

# Project Schedule

A simplistic view of the project schedule can be seen below.



Figure 1 - Simplified Schedule

For a complete and updated view of the tasks and their resources, open the file “Gant.mpp” located in the team repository.

# Project Tracking

An Earned Value graph will be used to track the project and should be updated regularly with the tasks progress. It will be available at the documents repository and should be updated at the end of the week (the earlier it is updated, the better) by the team members who contributed to the week tasks. The tasks should be updated by inserting the number of effort hours spent in that task in the respective week column. If the tasks is finished, an ‘X’ should be placed in the next week column.

The critical deviation value for this project is considered to be a negative Schedule Variation of 20% of the Planned Value. Another value to be considered is a Schedule Performance Index under 80%.

# Quality Plan

A Quality Plan is defined in the document “Quality Plan.docx” and it’s available at the team document repository.

# Processes

There are some processes defined for this project. The following list contains the name of each process and the document that defines the process.

* Document Management Process - Document Management Process.docx;
* Review Process – Review Process.docx;
* Project Planning Process - Project Planning Process.docx;
* Project Assessment And Control Process - Project Assessment And Control Process.docx;
* Requirements Analysis Process - Requirements Analysis Process.docx;
* Verification and Validation Process - Verification & Validation Process.docx;