PS2Win

Software Requirement Specification

Keep Your Time

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Table 1: List of Contributors

Revision History					
Date	**Description**	**Author**	**Version**	**Approvers**	**State**
25-04-2013	Creation Document: initial draft	João Girão	0.1		Draft
25-04-2013	Adding the use cases and requirements exported from Enterprise Architect	Carla Machado	0.2		Draft
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26-04-2013	Some changes due to input from Rui Ganhoto	Carla Machado	0.4		Ready for Revision

Table 2: Version history

1. Introduction

1.1. Purpose

The purpose of this document is the presentation of the use cases and requirements of the application Keep Your Time.

All the functionalities will be identified with recourse to the definition of use cases and requirements that intend to reflect the way the application should be used and how the system should perform.

1.2. Vision of the Solution

The application to be developed will be composed in the first release of one component:

- Desktop: for task time management;

The application will allow the users to manage their time in a structured way allowing task identification both of the ongoing one or in case of idle time detection decide whether to add the time to the current task or ignore the time. . Furthermore the application will provide a history of performed tasks.

The application will be developed using .NET platform and C#. The desktop component will have the functional interface where the user can add tasks easily and view the tasks historical.

1.3. Major Features

FE-1: Adding, editing and deleting tasks;
FE-3: Inactivity alerts;
FE-4: Registering and timing individual tasks;
FE-7: Exporting the application data;

1.4. Assumptions and Dependencies

AS-1: The computer will have a Windows OS with at least the Vista version;
AS-2: The computer will have framework .Net 4.5;

This application doesn't have any dependencies with external software;

1.5. References

- Mockups: "*KeepYourTIme_Mockups.pdf*";

2. Use Cases Model

In this section the identification and description of the actors related to the application and the different use cases will be presented. These actors and use cases can be seen in the use case diagram show in Figure 1.

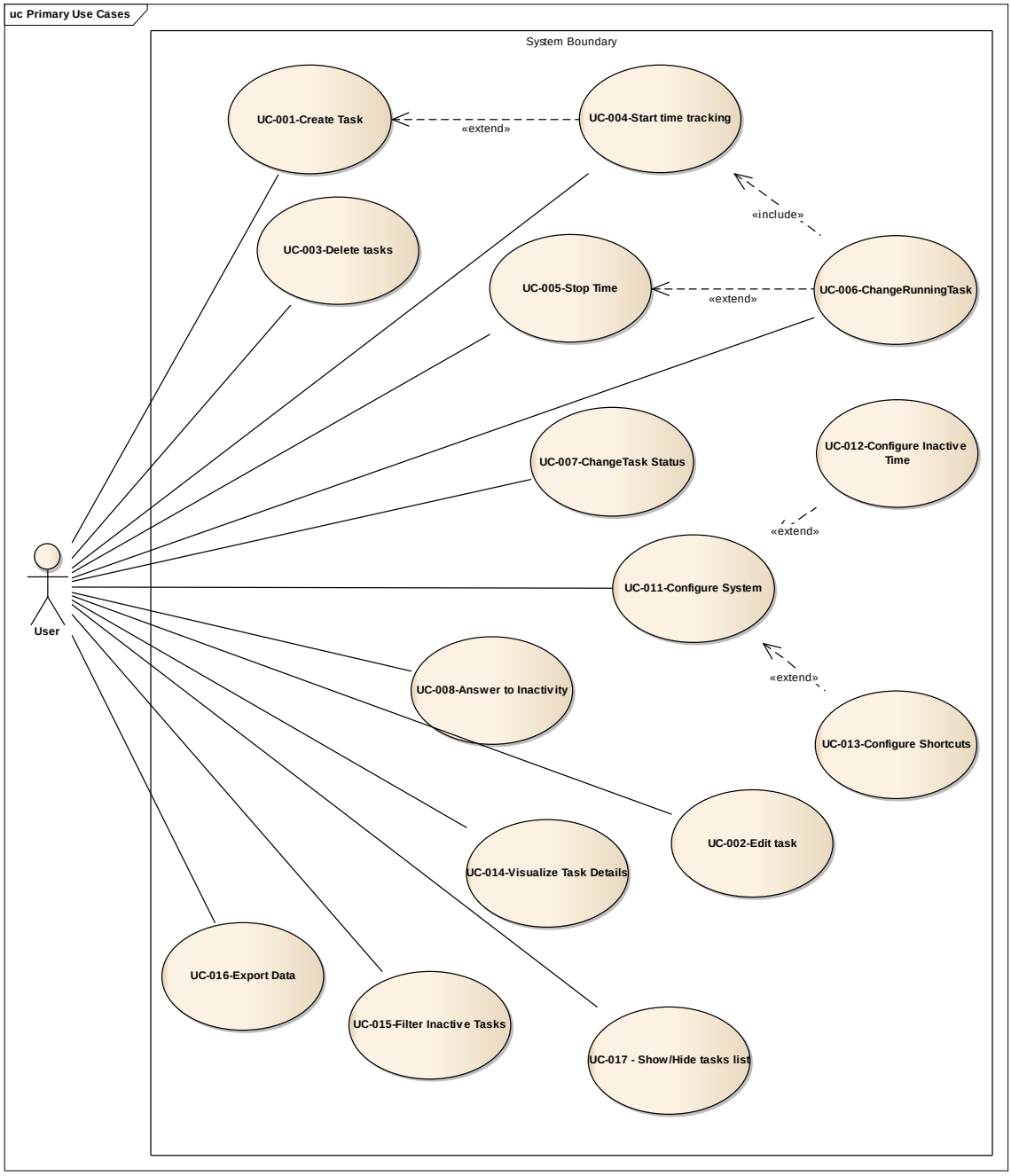

Figure 1: Use Case Diagram

2.1. Actors

User: The user with full access to the application and its features.

2.2. Use Cases

2.2.1. UC-001-Create Task

The user creates a new task. The user inserts the name for the task and selects the option of creating and starting the task or creating the task and adding more information. The task is created in the database and added to the tasks list

In the first case the task is created, selected as the running task and the timer starts.

In the second case the creation form is presented to the user who then can insert the remaining task information such as the description and conclude the operation.

[MKU001: Main Window; MKU001.1: Main Window (status)]

Basic Path

Creating Task:

[1] The user inserts the task name and selects the option to create task. [2] The system presents the creation form. [3] The user inserts the information and saves the task. [4] The system inserts the task in the database and ads the task to the tasks list.

Alternate Paths

Creates and starts the task:

(at [1])
The user inserts the task name and starts the task. The system inserts the task in the database and adds the task to the tasks list [Invokes: UC-004-Start time tracking].

Exceptions

(at [4])
An error occurs when inserting the data in the database. The application returns an error message.

2.2.2. UC-002-Edit task

The user selects a task to edit. The edition form is presented to the user that makes the alterations and saves the changes.

[MKU003: Edit Task]

Basic Path

Editing Task:

[1] The user selects a task to edit. [2] The system presents the edition form to the user. [3] The user makes the changes and saves them. [4] The system updates the information in the database and the tasks list.

Alternate Paths

Cancel Edition:

(at [3])
The user cancels the edition. The system closes the edition form.

Exceptions

(at [4])
An error occurs when inserting the data in the database. The application returns an error message.

Pre-condition

Existence of tasks

2.2.3. UC-003-Delete tasks

The user selects one task and selects the remove button. The task is removed from the tasks list and all the information related to the task is removed from the database.

[MKU001: Main Window]

Basic Path

Delete task:

[1] The user selects one task and presses the delete button. [2] The system deletes the task from the database and updates the tasks list.

Exceptions

(at [2])
An error occurs when accessing the database. An error message is presented to the user.

Pre-condition

Existence of tasks

2.2.4. UC-004-Start time tracking

The user chooses a task and starts the time tracking. The system starts counting the time and presents a timer to the user.

[MKU001: Main Window; MKU001.1: Main Window (status)]

Basic Path

Starting Time:

[1] The user selects an active task and starts the time. [2] The system starts the timer.

Pre-condition

Existence of tasks

2.2.5. UC-005-Stop Time

The user stops the time. The system stops the time and updates the information of the task.

[MKU001: Main Window; MKU001.1: Main Window (status)]

Basic Path

Stopping Time:

[1] The user stops the time. [2] The system stops the timer and updates the task information.

Exceptions

(at [2])
An error occurs while accessing the database. An error message must be presented to the user.

Pre-condition

There must be a task running.

2.2.6. UC-006-ChangeRunningTask

The user uses a shortcut to change the running task.

Basic Path

Existing running task:

[1] The system is tracking the time of a running task. [2] The user uses a pre-defined shortcut to start timing a task. [3] The system stops the time of the current running task and updates the task information. The system selects the task assigned to the shortcut the user pressed and starts the timer.

Alternate Paths

No running task:

(at [1])
The user presses a predefined shortcut to start a task. The system selects the task and starts the timer.

Exceptions

(at [3])
An error occurs while accessing the database. An error message must be presented to the user.

Pre-condition

There must be more than one active task

There must me a match between the active tasks and the used shortcut

2.2.7. UC-007-ChangeTask Status

The user selects a task from the list and selects the option to change the task status between Active and Inactive

[MKU001: Main Window]

Basic Path

Activate Task:

[1] The user selects the task to change the status and selects Activate/Deactivate. [2] The system changes the status of the task and updates the database information.

Exceptions

(at [2])
An error occurs when updating the information in the database. The application returns an error message to the user.

Pre-condition

Existence of inactive tasks

2.2.8. UC-008-Answer to Inactivity

The system must detect inactivity times according with the system configuration and prompt the user for a response.

[MKU004: Configurations; MKU005: Alert Inactivity]

Basic Path

Adding time:

[1] The system detects an inactivity time. The system stops the timer and prompts the user for an action. [2] The user adds the time to the running task. [3] The system adds the time to the running task and updates de information in the database.

Alternate Paths

Ignore time:

(at [2])
The user ignores the time. The system ignores the time.

Exceptions

(at [3])
An error occurs when updating the information in the database. The application returns an error message to the user.

2.2.9. UC-011-Configure System

The user changes the system configurations.

[MKU004: Configurations]

Basic Path

Configure:

[1] The user opens a configuration window. [2] The system presents the configuration window. [3] The user changes the definitions and saves. [4] The system saves the changes and applies the changes to the system.

Alternate Paths

Cancel Edition:

(at [3])
The user closes the window without saving.

Exceptions

(at [4])
An error occurs while accessing the database. An error message must be presented to the user.

2.2.10. UC-012-Configure Inactive Time

The user accesses the configurations page and activates the configuration system and sets the inactivity time to a value between 0 and 60 minutes.

[MKU004: Configurations]

Basic Path

Activate Inactivity:

[1] The user accesses the configuration page and activates the inactivity alert. [2] The system activates the configuration of inactivity time. [3] The user inserts a time between 0 and 60. [4] The system updates the information in the database and puts the new configuration in effect.

Alternate Paths

Deactivate inactivity time:

(at [1])
The user accesses the configuration page and deactivates the inactivity alert. The system blocks the configuration of inactivity time. Updates the database information and puts the new configurations in effect.

Exceptions

(at [4])
An error occurs while accessing the database. An error message must be presented to the user.

2.2.11. UC-013-Configure Shortcuts

The user accesses the configuration page and defines shortcuts for changing between five chosen tasks

[MKU004: Configurations]

Basic Path

Configure Shortcuts:

[1] The user accesses the configurations page and defines the shortcuts by defining the shortcuts and the corresponding task. [2] The system updates the information in the database and applies the new definitions.

Exceptions

(at [2])
An error occurs while accessing the database. An error message must be presented to the user.

Pre-condition

Existence of tasks

2.2.12. UC-014-Visualize Task Details

The user chooses a task to view the details.

[MKU002: Task Details]

Basic Path

[1] The user selects a task to view the details. [2] The system presents the task details.

Exceptions

(at [2])
An error occurs while accessing the database. An error message must be presented to the user.

Pre-condition

Existence of tasks

2.2.13. UC-015-Filter Inactive Tasks

The user activates/deactivates a filter in order to see or hide the inactive tasks.

[MKU001: Main Window]

Basic Path

Present tasks list:

[1] The system presents a list of all the tasks to the user. [2] The user selects the option to hide the inactive tasks. [3] The system filters the task list and only shows the active tasks.

2.2.14. UC-016-Export Data

The user selects the option corresponding to the settings. In the section settings e then selects the functionality of exporting data.

[MKU004: Configurations]

Basic Path

Current Task:

[1] The user selects the settings functionality. [2] The system redirects the user to the settings form where an option for exporting data is available. [3] The user selects the export option and gives the required information and confirms the operation. [4] The system exports the data.

Exceptions

(at [4])
The system doesn't have writing permissions in the destination folder or an error occurs when accessing the database. The system presents an error message to the user.

Pre-condition

Existence of tasks

2.2.15. UC-017 - Show/Hide tasks list

User presses a button to show or hide the tasks list.

[MKU001: Main Window]

Basic Path

Show Tasks List:

[1] The system presents a minimal view without the tasks list. [2] The user presses a button to expand the window and view the task list. [3] The system expands the window and presents the complete task list.

Alternate Paths

Hide Tasks List:

(at [1])
The system presents a view with the tasks list. The user presses a button to hide the tasks list. The system minimizes the window and stops showing the tasks list.

3. Functional Requirements

3.1. 1CT-001:Task.create

The system receives a task name from a text box. This text box allows auto complete.

Priority: High

Difficulty: High

3.2. 1CT-002:Task.create.validate

The system validates the task name.

Priority: High

Difficulty: Low

3.3. 1CT-003:Task.create.validate.notEqual

The system saves the task name in the database with an ID, name and initial date. The task is started.

Priority: High

Difficulty: Low

3.4. 1CT-004:Task.create.AutoComplet

The system analyzes the text box. When the user enters three or more characters, the system presents a set of suggested tasks in a drop down list. The suggested tasks names start with the characters inserted by the user.

Priority: High

Difficulty: Medium

3.5. 2ET-001: EditTask

The system allows the edition of the fields name and description. The system allows insert, update and delete of individual times of a task.

Priority: Medium

Difficulty: Medium

3.6. 2ET-002: EditTask.save

The system validates the name and times between start date and end date

Priority: Medium

Difficulty: Medium

3.7. 2ET-003: EditTask.save.true

The system updates the task name in the database with the name, start and end date of individual times and description of a task

Priority: Medium

Difficulty: Medium

3.8. 2ET-004:EditTask.save.false

In each field, the system presents an error message “Invalid field!” and the reason.

Priority: Medium

Difficulty: Medium

3.9. 3DT-001: DeleteTask

The system deletes the selected task and updates the database. The system should ask for confirmation before deleting the task.

Priority: Medium

Difficulty: Low

3.10. 4STT-001: StartTime

The system stops the current task if there is one and starts counting the time for the selected task.

Priority: High

Difficulty: Medium

3.11. 5ST-001: StopTime

The system stops the time and updates the information of the task and saves it in database.

Priority: High

Difficulty: Medium

3.12. 6CT-001: ChangeRunningTask

The system allows the change of the running task through a combination keys or stoping the current task and starting another.

Priority: High

Difficulty: High

3.13. 6CT-002: ChangeRunningTask.CombinationFail

The system plays a beep if the pressed shortcut isn’t associated with a task.

Priority: High

Difficulty: High

3.14. 6CT-003: ChangeRunningTask.Success

When a task is started the system presents a brief popup to the user that disappears without user intervention.

Priority: High

Difficulty: High

3.15. 7CT-001: ChangeTask Status

The system loads all tasks from database and allows selecting them for change of status. It doesn't allow to change the status of running tasks.

Priority: Medium

Difficulty: Low

3.16. 8AI-001: Inactivity

The system verifies the user's inactivity for a period of time.

Priority: High

Difficulty: High

3.17. 8AI-002: Inactivity.Notify

The system blocks the screen and asks the user what he wants to do. The user chooses to ignore the time or add the time to the running task.

Priority: High

Difficulty: Medium

3.18. 8AI-003: Inactivity.Notify.Adds

The system adds the time to the running task.

Priority: High

Difficulty: Medium

3.19. 8AI-003: Inactivity.Notify.Ignores

The system ignores the time until last activity.

Priority: Medium

Difficulty: Low

3.20. 12CIT-001: ConfigureInactiveTime

The system receives a duration for the inactivity time if the user activated the inactivity alert.

Priority: Medium

Difficulty: Low

3.21. 12CIT-002: ConfigureInativeTime.validate

The system validates the inactive time field.

Priority: Medium

Difficulty: Low

3.22. 12CIT-003: ConfigureInactiveTime.validate.False

The system presents a message with the reason it failed the validation.

Priority: Medium

Difficulty: Low

3.23. 12CIT-004: ConfigureInactiveTime.validate.True

The system saves the inactivity time in the database.

Priority: Medium

Difficulty: Low

3.24. 13CS-001: ConfigureShortcuts

The system allows the user to associate five tasks with keyboard shortcuts. The user selects an existing task and a combination of keys to define the shortcut.

Priority: Medium

Difficulty: Low

3.25. 13CS-002: ConfigureShortcuts.validate

The system validates the entered choices. The system verifies if a shortcut was entered and a task chosen. It also verifies the existence of duplicated shortcuts or tasks.

Priority: Medium

Difficulty: Low

3.26. 13CS-003: ConfigureShortcuts.validate.true

The system saves the information into database: task name and shortcuts.

Priority: Medium

Difficulty: Low

3.27. 13CS-004: ConfigureShortcuts.validate.False

The system presents message with the reason it failed the validation.

Priority: Medium

Difficulty: Low

3.28. 14VTD-001: TaskDetails

The system loads the selected task information from the database and presents the task name, description and the individual times list with start date, end date and time spent.

Priority: High

Difficulty: Medium

3.29. 14VTD-002: TaskDetails.Calculate

The system calculates the time spent for each individual time entry.

Priority: High

Difficulty: Medium

3.30. 15FIT-001: FilterTask

The system allows the filtering of the inactive tasks and only presents the active tasks.

Priority: High

Difficulty: Medium

3.31. 15FIT-002: FilterTask.ShowAll

The system groups the active tasks and inactive tasks in different groups.

Priority: High

Difficulty: High

3.32. 16ED-001: ExportData

The system allows the user to choose the path to save the exported file.

Priority: Medium

Difficulty: Medium

3.33. 16ED-002: ExportData.Export

The system loads all the data to be exported from the database. The data is exported to a .csv file.

Priority: Medium

Difficulty: Medium

3.34. 17TL-001: TaskList

The system allows the show/hide of the task list. This list can be sorted by name, total time, spent time of day or stop date.

Priority: High

Difficulty: Medium

3.35. 17TL-002: TaskList.DefaultSort

The system sorts the tasks by descending order of stop date.

Priority: High

Difficulty: Medium

3.36. 17TL-003: TaskList.DefaultSort.CurrentTask

The system shows at the top of the list the current task followed by the others.

Priority: High

Difficulty: Medium

3.37. 17TL-004: TaskList.Sort

The system sorts the tasks by name, total time, spent time of day or stop date. Even if a task is running it will assume the sorted position.

Priority: High

Difficulty: Low

3.38. 17TL-005: TaskList.TotalTime

The system presents the total time for each task in the format hh:mm.

Priority: High

Difficulty: Low

3.39. 17TL-006: TaskList.Today

The system presents the today time for each task in the format hh:mm. If a task doesn't have time registered in the current day the today time should present 00:00.

Priority: High

Difficulty: Low

3.40. 17TL-007: TaskList.StopDate

The system presents the stop date for each task in date format. If the task was performed in the current day, it is presented in the format hh:mm (last stop of day).

Priority: High

Difficulty: Low

3.41. 17TL-008: TaskList.Actions

The system allows for each task a set of actions so the user can view the details, start/stop, delete tasks and activate or inactivate them.

Priority: High

Difficulty: High

4. Interface Requirements

4.1. UI-001: MainWindow

The system shows minimal view with a textbox to insert the task name, a button to start/stop and add the task, a timer, a button to view the task details, a button to edit the task, a button to show the configurations form, a button to hide/show the tasks list and a button to close the application.

Priority: Medium

Difficulty: Medium

4.2. UI-002: Buttons that are always active

The button to show configurations, to hide/show tasks list and the button to close the application are always active.

Priority: Medium

Difficulty: Medium

4.3. UI-003: Expand list button

When the tasks list isn't expanded, the expand button should show the symbol of a down arrow. When the tasks list is expanded it should show an up arrow.

Priority: Medium

Difficulty: Medium

4.4. UI-004: TextBox filled with a new task name

The system activates the button to add task.

Priority: Medium

Difficulty: Medium

4.5. UI-005: TextBox filled with Existence task name

The system enables the start, edit and view details buttons. If the Enter key is pressed the system changes the start button to stop button.

Priority: Medium

Difficulty: Medium

4.6. UI-006: TextBox with running task

The system changes the start/add button to the stop button, view details button and it starts timer. The edit button is disabled.

Priority: Medium

Difficulty: Medium

4.7. UI-007: Clicking in view details button

The system presents a form with the details of the task and an edit button.

Priority: Medium

Difficulty: Medium

4.8. UI-008: Clicking in edit button

The edition must be inline. In times table, each line has a button to delete that line.

Priority: Medium

Difficulty: Medium

4.9. UI-009: Clicking in configuration button

The system presents a form with:

- an export button;
- a check box to activate/deactivate inactivity alerts and a text box to define the inactivity time. This text box is active only if the inactivity alert is enabled;
- five lines for shortcuts definition with the following composition:
    - one combo box for selecting an existing task;
    - three checkboxes for check/uncheck the control keys ctrl, alt, shift;
    - one textbox for and additional key.

Priority: Medium

Difficulty: Medium

4.10. UI-010: Visual distinction between active and inactive tasks

The system should differentiate visually the active from inactive tasks

Priority: Medium

Difficulty: Medium

5. Performance Requirements

5.1. PR-001: Startup of the application

The startup of the application shouldn't last longer than 15 seconds.

Priority: Medium

Difficulty: Low

5.2. PR-002: Transition time

The transition between forms, when the total number of tasks doesn’t exceed 100, shouldn’t last longer than 10 seconds.

Priority: Medium

Difficulty: Low

Appendix A: Data Dictionary

Term	Definition
Description	The field description accepts until 500 characters and accepts special characters.
End date	The field end date is of datetime type.
Inactive time	The inactive time field must be an integer number between 1 and 60.
Name	The field name accepts until 50 characters and special characters. The name is unique.
Start date	The field start date is of datetime type.
Status	A task has two status, active or inactive.
Time spent	The time spent field is calculated and should be presented with the following format hh:mm.
Total time	The total time field is calculated and should be presented with the following format hh:mm.