

Project Requirements

Project Name: Word Finder

Team: 3

Customer: Andrei Chis

Revision History

Version	Date	Revision Description

Date: October 2, 2013

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1. Introduction

1.1 Purpose

The purpose of this document is to present a detailed description of a Word Finder Game. It will explain the purpose and features of the software system, the interfaces of the system, what the system will do, the constraints under which it must operate and how the system will react to external input.

1.2 Stakeholders

- Our customer Andrei Chis
- The users

1.3 Definitions

- Dictionary - A list of words, also called wordlist.
- Board - A 7x7-matrix where each cell contains a capital letter and a score for this letter.
- Matrix - A rectangular alignment of letters with corresponding scores.
- Friend - A contact for social interaction.
- Android - An operating system for mobile devices.
- Word - A sequence of letters. A matching word is a sequence of letters contained in the dictionary.
- Game - A combination of a dictionary, board.

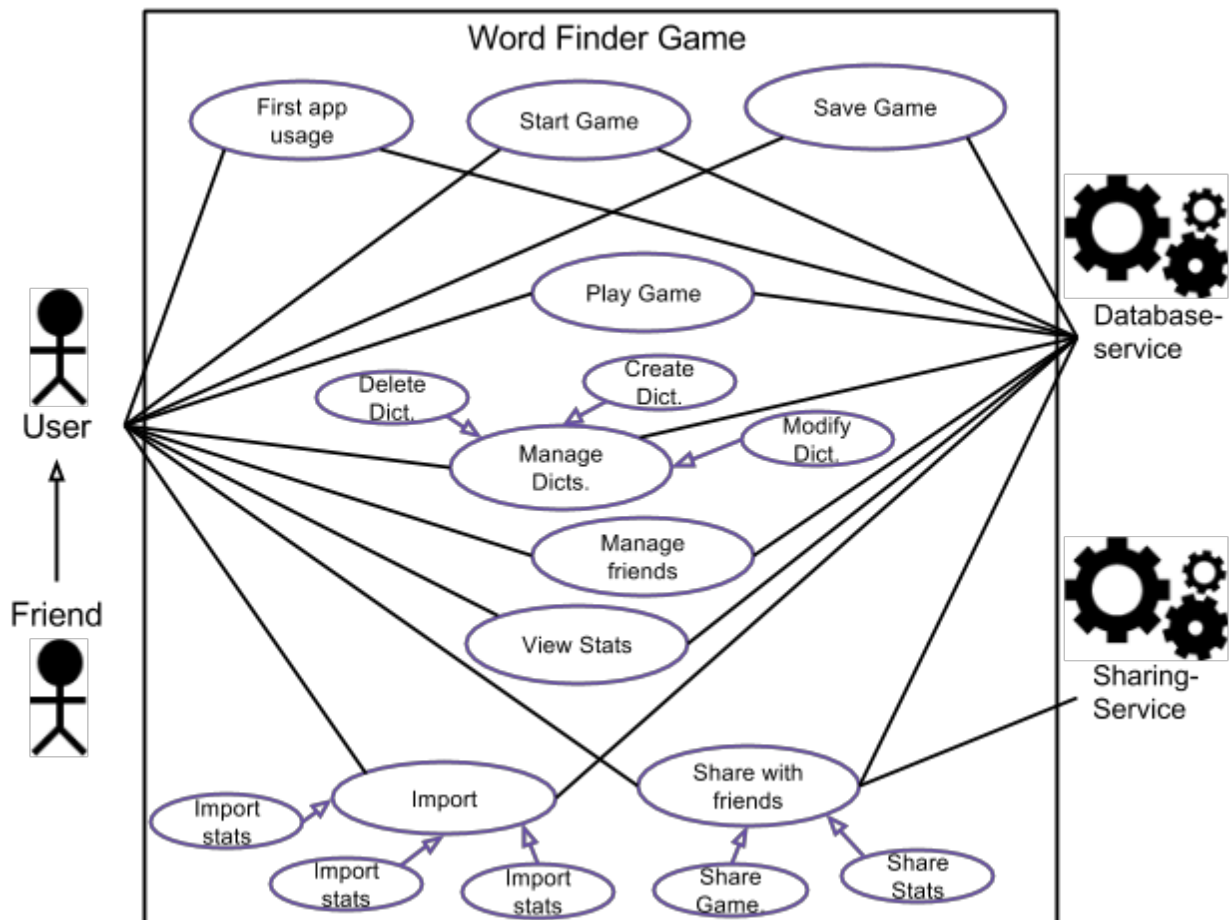
1.4 System overview

The program is thought to be a simple game which entertains the user and is social too. The user has to find as many words as he can in a given matrix and amount of time and should be able to choose to play a new game or play on the same board on which his friends have played before. In this second case, his score will be ranked in comparison with his friends.

Beside the gaming part of the program, the user should be able to have a look at his and his friends statistic. There is also a possibility to adjust the conditions of the game by adding, create or change the wordlist which is used for creating the game. Those wordlist can also be sent to a friend. It is also possible to share a whole game (board and corresponding words) with a friend.

2 Overall Description

2.1 Use Cases



2.1.1 First App Usage

1. Actors

- 1.1. Local user

2. Description

- 2.1. The user starts the application for the first time and gets asked to give a email address and a custom user name.

3. Trigger

- 3.1. User starts the application for the first time

4. Pre-conditions

- 4.1. The application has not been used before

5. Post-conditions

- 5.1. The username and email address will be saved in future

6. Main-Scenario

- 6.1. The user opens the application for the first time
- 6.2. He gets asked to input a custom username and a valid email address.
- 6.3. The user enters the requested information

7. Notes

- 7.1. The username and email address can be edited in the options menu

2.1.2 Start new game**1. Actors**

- 1.1. Local user

2. Description

- 2.1. As a user I want to start a fresh game so I can play on a new game with a preferred dictionary or on a board of a friend

3. Trigger

- 3.1. User clicks on 'Start Game' to choose a game

4. Pre-conditions

- 4.1. Default wordlist exists

5. Post-conditions

- 5.1. Selected wordlist is correctly loaded.
- 5.2. The board will be generated based on the selected wordlist.
- 5.3. Selected wordlist is not empty

6. Main-Scenario

- 6.1. User clicks on New Game
- 6.2. User chooses wordlist or uses the default
- 6.3. User clicks on 'Start'
- 6.4. The board will be generated.

2.1.3 Play Game**1. Actors**

- 1.1. Local user

2. Description

- 2.1. The user interacts with the board (wiping, rotating) and guessing words while the time is running

3. Trigger

- 3.1. The User is through the 'Start Game' case
- 3.2. The game has been successfully created

4. Pre-conditions

- 4.1. The board is generated correctly based on the selected wordlist/board

5. Post-conditions

- 5.1. The score is up to date in all-time stats
- 5.2. The timer is zero
- 5.3. Total words guessed stats are up to date
- 5.4. The 'Game finished' screen is shown

6. Main-Scenario

- 6.1. The user guesses a word
- 6.2. The word is in the current wordlist and gets counted
- 6.3. The found word appears in the list below
- 6.4. The score gets updated
- 6.5. The time is up and the game finishes and displays overview screen

7. Alternative Scenario

- 7.1. During the game, the user gets a call
- 7.2. The game pauses (Timer stops)
- 7.3. User finishes the call and returns to the application
- 7.4. Timer continues counting down

2.1.4 View Statistics**1. Actors**

- 1.1. Local user

2. Description

- 2.1. The user interacts with the menu to view his stats

3. Trigger

- 3.1. The user clicks the "Statistics" Button in the menu.

4. Pre-conditions

- 4.1. The main menu is shown
- 4.2. The user has finished at least one board correctly

5. Post-conditions

- 5.1. The stats remain the same.

6. Main-Scenario

- 6.1. The user wants to know how many words he has found
- 6.2. The user wants to know on which board he has the highest score

2.1.5 Share Game

1. Actors

- 1.1. Local user

2. Description

- 2.1. The user wants to share a game with one of his friends.

3. Trigger

- 3.1. The user chooses to share the game from the menu or after a game is finished.

4. Pre-conditions

- 4.1. The game exists in the user's pool of different games or the user just finished a game.

5. Post-conditions

- 5.1. The game is sent to the friend
- 5.2. The saved game remains in the actual state

6. Main-Scenario

- 6.1. The user clicks the "Share Game" button in the menu.
- 6.2. The user chooses a game from his pool of saved games.
- 6.3. The user clicks the "Recipient" button.
- 6.4. The user chooses a friend from his list of contacts.
- 6.5. The user clicks the "Send" button to send the game to his friend.

7. Alternative Scenario

- 7.1. After finishing a game the user clicks the "Share this game" button.
- 7.2. The user clicks the "Recipient" button.
- 7.3. The user chooses a friend from his list of contacts.
- 7.4. The user clicks the "Send" button to send the game to his friend.

2.1.6 Manage Friends

1. Actors

- 1.1. Local user

2. Description

- 2.1. The user interacts with the main menu to add/delete or edit a contact

3. Trigger

- 3.1. The users clicks the "Friend" button in the main menu to get to the friend menu. In the friend menu the user clicks the "Add Friend", "Delete Friend" or "Edit Friend" button, respectively, depending which task he wants to perform.

4. Pre-conditions

- 4.1. The application is started successfully and the main menu is displayed.

5. Post-conditions

- 5.1. Add Friend: A new contact is added to the contact list, while the other contacts remain unchanged.
- 5.2. Delete Friend: The contact is deleted from the contact list and the other contacts remain unchanged.
- 5.3. Edit Friend: The contact information is updated while the other contacts remain unchanged.

6. Main-Scenario

- 6.1. The user clicks the "Add Friend" button.
He enters a name and an email address.
The user clicks the "Save" button to save the newly created contact.
- 6.2. The user clicks the "Delete Friend" button.
He marks a friend in the list of contacts.
He clicks the "Delete" button to finally delete the contact.
- 6.3. The user clicks the "Edit Friend" button.
The user edits the name and/or address field of the contact.
The user clicks the "Save" button to save the modifications.

7. Special Requirements

- 7.1. A friend needs a name and an email address.

2.1.7 Manage Dictionaries**1. Actors**

- 1.1. Local user

2. Description

- 2.1. The user creates, modifies, imports and deletes his custom dictionaries.

3. Trigger

- 3.1. The user selects the "manage dictionaries" button in the dictionary menu.

4. Pre-conditions

- 4.1. Every dictionary must have at least 1 word
- 4.2. The user is in the dictionary menu and selects "modify dictionaries"

5. Post-conditions

- 5.1. The dictionary/dictionary list is modified.
- 5.2. The modifications are saved

6. Main-Scenario

- 6.1. The user selects a dictionary to modify
- 6.2. The user imports dictionaries
- 6.3. The user selects “add words” or “import words”
- 6.4. The user types in new words or imports them from other dictionaries
- 6.5. The user saves the changes by selecting the “save changes” button

7. Alternative Scenario “create dictionary”

- 7.1. The user selects “create dictionary”
- 7.2. The user types a name for his new directory
- 7.3. The user proceeds as described in the Main-Scenario to add or import new words

Alternative Scenario “delete dictionary”

- 7.4. The user selects a dictionary he wants to delete
- 7.5. The user selects “delete this dictionary”
- 7.6. The user gets asked if he really wants to delete this dictionary
- 7.7. The user selects “delete”

8. Special Requirements

- 8.1. All created dictionaries need to contain at least 20 words to be used to play (dictionaries with less words can be saved but not used to play)

9. Notes

- 9.1. The default dictionaries cannot be modified but used to create new ones

2.1.8 Save Game**1. Actors**

- 1.1. Local user

2. Description

- 2.1. The user can click a ‘Save Game’ button at the end of a game to save the board he played on (plus stats)

3. Trigger

- 3.1. The user clicks ‘Save Game’

4. Pre-conditions

- 4.1. The user has successfully finished the game

5. Post-conditions

- 5.1. The board and the according stats will be saved and appear in the ‘statistics’ menu

6. Main-Scenario

- 6.1. The user wants to save the game he just played to play it again later
- 6.2. After clicking ‘Save Game’, the user gets prompted to enter a name
- 6.3. The user enters ‘Very hard words’ so he remembers this board
- 6.4. Clicking OK saves the game

2.1.9 Share Stats

1. Actors

- 1.1. Local user

2. Description

- 2.1. The user can send his all-time statistics to a friend from his friend-list

3. Trigger

- 3.1. The user clicks 'Share' in the main menu

4. Pre-conditions

- 4.1. The user has friends in his friend-list
- 4.2. The email address of his friend is valid
- 4.3. The user has statistics
- 4.4. There has to be an internet connection

5. Post-conditions

- 5.1. The Stats are send to a friend
- 5.2. The Stats have to be readable for a friend

6. Main-Scenario

- 6.1. The user chooses a friend from a list
- 6.2. The user clicks 'send' to submit the Stats
- 6.3. The user gets a message for the successfully submission

7. Alternative Scenario

- 7.1. The user chooses a friend from a list
- 7.2. The user clicks 'send' to submit the stats
- 7.3. The user gets a message for a failed submission in case of connection problems or other send problems

8. Special Requirements

- 8.1. The user has an email address

2.1.10 Import Game/Stats

1. Actors

- 1.1. Local user

2. Description

- 2.1. The user can import a game or the statistics he got from a friend

3. Trigger

- 3.1. The user opens the email attachment he got from a friend

4. Pre-conditions

- 4.1. The attachment is in the correct format

5. Post-conditions

- 5.1. The saved games/statistics are updated

6. Main-Scenario

- 6.1. The user opens the attachment with the application
- 6.2. The app is updating the information
- 6.3. The user can play the game/view the statistics

7. Special Requirements

- 7.1. The user needs an email client

2.2 Actor characteristics

User:

The user is expected to be familiar using his email, thus he has a preconfigured mail client where they can open attachments with the Word Finder application to import boards and stats sent by friends.

3 Specific Requirements

3.1 Functional Requirements

1. In-Game functionalities and requirements

- 1.1. While playing, the board can be rotated clockwise
- 1.2. The score gets updated according to the amount of points given by the word found. Each letter has a specific amount of points based on the frequency in the current dictionary.
- 1.3. Words can be selected by wiping over them horizontally, vertically and diagonally but not backwards over the same letters
- 1.4. The game displays how many words were found
- 1.5. The game displays a timer starting at 5 minutes counting down
- 1.6. The game cannot be paused except for calls and system notifications
- 1.7. Words don't count multiple times
- 1.8. The board contains at least 20 words from the dictionary

2. Sharing

- 2.1. Friends can be added by email
- 2.2. At the end of a game, the stats of the game plus the board played on can be shared with friends (over email or Facebook)
- 2.3. Also, all-time stats can be shared with friends
- 2.4. Dictionaries can be shared

3. Dictionary management

- 3.1. Dictionaries can be added and used in game
- 3.2. Dictionaries can be created based on other dictionaries and additional words
- 3.3. Existing dictionaries can be edited (adding and deleting words)
- 3.4. The game comes with default dictionaries which cannot be edited
- 3.5. A dictionary must have at least 20 words

4. Statistics

- 4.1. The user can see his all-time stats (total games played, total words found, total points etc.
- 4.2. Current stats from friends are shown beside yours

5. Options

- 5.1. The user can change its name (and email)
- 5.2. Default dictionary selection

3.2 Non-Functional Requirements

1. Product Requirements

- 1.1. The product runs on android devices with API 8 or higher
- 1.2. The system provides social features (Sharing via email)
- 1.3. The system does not require a connection to a server or additional login/passwords

2. Performance

- 2.1. Generating a new board should not exceed two seconds
- 2.2. The application should be stable (The application does not crash in 100 years)