Software Requirements Specification

Kevin John Hardy-Cooper 1312836
Nareshkumar Maheshkumar 1320375
Athidya Raveenthranehru 1316204
Radhika Rani Sharma 1150430
Mario Calce 1304792
Abishek Mukherjee

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Contents

1 Introduction

The following document will outline and describe the mobile application meant to answer the question "What is this?" with respect to natural optical phenomena. In this document, the question of what the application will do will be addressed, however emphasis will be made to avoid addressing how the mobile application will accomplish its tasks. This document will define the purpose and scope of the application, along with any associated definitions, acronyms and abbreviations. In addition, product perspective, product function, user characteristics, constraints, and assumptions and dependencies will be explored with respect to how they apply to the mobile application. Functional requirements and non functional requirements will also be defined in this document.

1.1 Purpose

a) As mentioned previously, the requirements document is meant to describe everything that the system must do. This will include all tasks that the application must complete as shown in the functional requirements , as well as how the application must look, perform, be maintained, be usable and be secure as shown in the non functional requirements. Through the use of business events and viewpoints, the requirements document will outline how the application must react to different user stimulus.

b) The intended audience of this document is anyone who wishes to gain insight on what the application must do and how it must react to user stimulus.

1.2 Scope

a) The application will be called Nature Optix.

b) The product will allow the user to answer a set of questions asked by the application. The application will then try to determine what natural phenomena the user is trying to specify based off the users answers. The application will also allow the user to take pictures of the phenomena and post it to social media.

c) The objective of this application will be to enable the user to identify natural optic phenomena. Other features, such as allowing the user to post picture to social media will help to generate awareness of different natural optic phenomena.

1.3 Definitions, Acronyms, and Abbreviations

a) REVISIT THIS

1.4 References

Not Applicable

1.5 Overview

a) The rest of this document will be organized into 3 parts as follows: Overall Description, Functional Requirements, and Non-Functional Requirements. Each of these sections are further broken down. The Overall Description will discuss product perspective, product function, user characteristics, constraints, assumptions and dependencies, and apportioning of requirements. The Functional Requirement will list all functional requirements and provide business events and viewpoint corresponding to each. Non-Functional Requirements will be divided into the following sections: Look and Feel requirements, Usability and Humanity Requirements, Performance Requirements, Operational and Environmental Requirements, Cultural and Political requirements, and Legal Requirements.

2 Overall Description

This section of the SRS should describe the general factors that affect the product and its requirements. It does not state specific requirements; it provides a background for those requirements and makes them easier to understand.

2.1 Product Perspective

The product under production will be similar to Akinator, the Web Genie. Akinator is an internet game that is based off of twenty questions. The game has the user think of a charcter or famous person. Akinator then asks the user a series of questions that can be answered with either Yes, No, Maybe, or Don't Know. Akinator than guess who the user is thinking of based on the answer given. Unlike Akinator, this application will focus soley on identifying natural phenomenon based on user information.

Due to the time constraints of the semester the application will be totally self-contained.

2.2 Product Functions

Some of the funtions that the applictaion will perform are as follows;

1. Identify a natural phenomon baesd on inputs
2. Allow the user to take a photo
3. Allow the user to share photos on social media

2.3 User Characteristics

The intended users are assumed to have the following characteristics:

a) user have a grade nine level education
b) users are aged at least thirteen years
c) users are familiar with using mobile applications
d) users have accounts with social media websites

2.4 Constraints

Some of the constraints that have been put on the project are;

a) Time: The project must be completed within the set time of the sesmester. Also the developers time will be spilt between the prjorect and other course work for external classes.
b) Budget: The project has a budget of zero dollars.

2.5 Assumptions and Dependencies

a) Assuming that users have phones that run atleast Android 4.0
b) Assuming that the user's phone has internet access
c) Assuming that the user's phone has a build in camera

2.6 Apportioning of Requirements

1. NULL

3   Functional Requirements

This section of the SRS should contain all of the software requirements to a level of detail sufficient to enable designers to design a system to satisfy those requirements, and testers to test that the system satisfies those requirements. Throughout this section, every stated requirement should be externally perceivable by users, operators, or other external systems. These requirements should include at a minimum a description of every input (stimulus) into the system, every output (response) from the system, and all functions performed by the system in response to an input or in support of an output.

BE1. User wishes to access the app

VP1.1 User

    i. User shall be able to download the app onto their smart phone.
    ii. User shall be able to open the app.

VP1.2 Application

    i. Application shall be able to handle user input.

BE2. User wishes to take a picture and post it to social media

VP2.1 User

    i. User shall be able to access the built-in camera on phone from the app.
    ii. User shall be able to take a picture.
    iii. User shall be able to save the picture to the app and the phone.
    iv. User shall be able to post to social media directly from the app.
    v. User shall be able to view saved pictures through the app.
    vi. User shall be able delete pictures from the app and the phone.

VP2.2 Application

    i. Application shall have access to internet via wireless connection from smart phone.
    ii. Application shall have access to the built-in camera on the smart phone.
    iii. Application shall have access to social media (Instagram)
    iv. Applicatoin shall display requested pictures to the user.
    v. Application shall be able to save pictures directly to the phone.
    vi. Application shall be able to delete pictures directly on the phone.

BE3. User wishes to identify a natural phenomena

VP2.1 User

    i. User shall be presented with options in which they can narrow down possible answers to "What is this?".
    ii. User shall be able to post a picture on social media through the app to get feedback from friends to identify a phenomenon.

VP2.2 App

    i. App shall provide the user "Yes or No" questions to identify a natural phenomenon.
    ii. App shall access the user's location using google maps services.
    iii. App shall be able to narrow down options after each question asked.
    iv. App shall display the identified phenomenon on the interface.
    v. App shall have access to the internet via wireless connection from smart phone.
    vi. App shall have access to social media(Instagram).

4 Non-Functional Requirements

4.1 Look and Feel Requirements

4.1.1 Appearance Requirements

LF1. The product shall have a simple display and easy to understand user interface.

4.1.2 Style Requirements

LF1. N/A

4.2 Usability and Humanity Requirements

4.2.1 Ease of Use Requirements

UH1. Product should be understandable and easily navigateable for all those between the ages seven to sixty years old.

UH2. No prior training is necessary in order to use this product assuming the user understands the basic naviagtion of their phone and general applications on their device.

4.2.2 Personalization and Internationalization Requirements

UH1. Product is only available in Canadian English.

UH2. Each user will be able to use their personal social media accounts to upload their desired images. The social media platforms that they will be able to access are Facebook, Instagram and Twitter.

4.2.3 Learning Requirements

UH1. Assumption is made that user already knows the basics of navigating their phone and simple applications on their phone.

4.2.4 Understandability and Politeness Requirements

UH1. The product shall hide the details of its implementation from the user.

UH2. The product shall use symbols and words that are naturally understandable to the user.

4.2.5 Accessibility Requirements

UH1. N/A

4.3 Performance Requirements

4.3.1 Speed and Latency Requirements

PR1. The system shall respond to any user input within three seconds.

PR2. The user shall be able to upload the desired picture to their designated social media platform within two minutes.

PR3. The user shall be able to recieve their location status within two minutes.

4.3.2 Safety-Critical Requirements

PR1. N/A

4.3.3 Precision or Accuracy Requirements

PR1. The product shall accurately detect natural phenomenon.

PR2. Location shall be accurately detected according to accuracy available with google maps.

4.3.4 Reliability and Availability Requirements

PR1. Product shall be available for use 24 hours a day, every day of the year.

4.3.5 Robustness or Fault-Tolerance Requirements

PR1. The product shall alert user if internet connection is not available.

4.3.6 Capacity Requirements

PR1. The product shall be able to save as many photos as there is memory available on the device.

4.3.7 Scalability or Extensibility Requirements

PR1. N/A

4.3.8 Longevity Requirements

PR1. This product is expected to operate without any maintenance.

4.4 Operational and Environmental Requirements

4.4.1 Expected Physical Environment

OE1. N/A

4.4.2 Requirements for Interfacing with Adjacent Systems

OE1. This product shall interact with google maps in order to determine the user's location and location of natural phenomenon.

OE2. This product shall be able to capture photos using the devices camera application.

OE3. This product shall be able to upload photos to user's social media platforms including Facebook, Twitter and Instagram.

OE4. This product shall be able to interact with weather application to determine current weather status.

4.4.3 Productization Requirements

OE1. N/A

4.4.4 Release Requirements

OE1. N/A

4.5 Maintainability and Support Requirements

4.5.1 Maintenance Requirements

MS1.

4.5.2 Supportability Requirements

MS1.

4.5.3 Adaptability Requirements

MS1.

4.6 Security Requirements

4.6.1 Access Requirements

SR1.

4.6.2 Integrity Requirements

SR1.

4.6.3 Privacy Requirements

SR1.

4.6.4 Audit Requirements

SR1.

4.6.5 Immunity Requirements

SR1.

4.7 Cultural and Political Requirements

4.7.1 Cultural Requirements

CP1.

4.7.2 Political Requirements

CP1.

4.8 Legal Requirements

4.8.1 Compliance Requirements

LR1.

4.8.2 Standards Requirements

LR1.

A   Division of Labour

Include a Division of Labour sheet which indicates the contributions of each team member. This sheet must be signed by all team members.

IMPORTANT NOTES

- Be sure to include all sections of the template in your document regardless whether you have something to write for each or not

    - If you do not have anything to write in a section, indicate this by the *N/A*, *void*, *none*, etc.

- Uniquely number each of your requirements for easy identification and cross-referencing

- Highlight terms that are defined in Section 1.3 (**Definitions, Acronyms, and Abbreviations**) with **bold**, *italic* or <u>underline</u>

- For Deliverable 1, please highlight, in some fashion, all (you may have more than one) creative and innovative features. Your creative and innovative features will generally be described in Section 2.2 (**Product Functions**), but it will depend on the type of creative or innovative features you are including.