Software Engineering (CS301)
User Manual
Travel Diaries

Group 5

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1 Introduction

1.1 Purpose

The purpose of this document is to present a detailed description of the Travel Diaries Android Application. It will explain the tenacity and the features of the application, the interfaces, the performance of the system, the constraints under which it must operate etc. This document is intended for both the stakeholders and the developers of the application.

1.2 Scope

The scope of this project is to develop a platform for the folks who love to travel and explore the world. The application would be an Android Application targeting the majority of the smartphone users. The idea is to build a social networking platform which would help the people in exploring the unexplored and let them share their experiences with ease by updating a travel diary for every new place or location explored.

1.3 Intended Audience and Reading Suggestions

This document is dedicated to let the reader know about the targets and requirements specified initiating from the description and leading to the requirements gathered from the client side. The document is targeted as a reading for the travelers and explorers, so as to have an idea on the requirements gathered for the entire application development process.

1.4 Overview

The Requirements Specification captures system requirements for the following areas: functionality, usability, reliability, performance, supportability and the design constraints.

1.5 References

- IEEE Software Requirements Specification Template-AGH
- http://www.cse.msu.edu/ cse870/IEEEXplore-SRS-template.pdf
- https://www.sqlite.org/
- http://developer.android.com/index.html

- https://source.android.com/compatibility

2 Overall Description

2.1 Application Perspective

The application shall allow users to maintain their own login account and would allow the user to set their privacy levels according to their convenience. As the user logs in to their respective accounts, the application would not only provide the users with the appropriate posts of travel diaries but it will also enable them to upload their experiences in the specific travel diary they intend to. Moreover, they can share their experiences along with their geo-tagged photos on the platform and would help out people in deciding a destination.

2.2 Operating Environment

2.2.1 Windows Operating System/Linux Operating System for application development. **2.2.2** Android Mobile Operating System for application deployment.

2.3 User Classes and Characteristics

Primary User - It includes the travellers, bloggers and others who either fond of travelling or not visit several places and usually end up ruining their trip in the absence of information or due to misleading information.

The Developer - The role of the developer is to maintain the software. It is assumed that the developer is comfortable to API programming, XML, JAVA and Django.

The Admin - The role of the admin is to reduce the spam and make the content more viable and taking actions regarding the primary user’s concerns.

2.4 Dependencies

The application runs on an Android platform. However, the entire android application development process requires the knowledge of creating layouts through XML files and the corresponding functionality through JAVA programming. The application also requires the knowledge of establishing connection between the server and the clients maintained by DJANGO.

2.5 Design and Implementation Constraints

The entire application development constraints our team in terms of building a sturdy application which is fast and gives accurate results.

2.6 User Documentation

The application would be provided with a help option generally a sign of question mark on the action bar which would be accessible on every activity. Clicking on the help button will lead the user to the respective help screen. A user manual would be designed for the user which will guide the user through the concerned problem.

3 Functional Requirements

3.1 User Interfaces

Following requirements have been gathered regarding the interface level design:

1. The app should be user friendly. It should not be overpopulated with unnecessary icons and information.
2. The interface should guide the user to respective screens so that the user does not feel lost in the middle of using the app.
3. If an event occurs, the user should be guided with a message dialog box displaying either the event is successful or an error has occurred.
4. The user shall be able to categorize the notifications he receives and should be able to manage those specifically.
5. The user should be able to open all the related files in the app itself and the application itself should provide the view and function to edit the same.
6. Every interface should guide the user either to the home page or it should provide help option to filter out his/her query or problems.

3.2 Hardware Interfaces

This will be an Android application, and as such will be designed to interface with the hardware present on the Android phone. In theory the application will be able to run by other devices that can emulate the Android.

As this is a mobile device, it will be using the Android network to connect to the internet, which will allow it to communicate with the database servers. This means that it will be using the infrastructure, be it wireless communication points or physical lines, of the network in order to perform properly. There will have to be some sort of error checking for if the network is down or inaccessible.

3.3 Software Interfaces

This software application will be connecting remotely to a PostgreSQL database that is to be set up for the server and the client. The operating system the software runs on is the Android operating system the Android phone runs on, which comes with a software framework that will be utilized, including many prepackaged components to do things like create menus, event handling buttons, and other common functions expected

from a mobile device. The only communication will be between the phone and the server housing the database, which will be sending queries or updates and receiving the information back.

3.4 Communications Interfaces

This will be an Android application, but may still link to web pages that are not necessary to duplicate. As described above, this will be communicating with a database server, and so will be making use of the Android network and HTTPS in order to communicate. The primary forms of communication will be database transactions, queries or requests. The system will need to be able to integrate the application for secure login of the users at the later stages of the product. The application will need to be synchronized to a certain extent with the other users of both the phones and the web browser, so that the information displayed to the user is always up to date.

5 System Features

5.1 LOGIN

5.1.1 Description and Priority

Anyone can login to the software with the help of a unique login-id and a password. It is a high priority action, because the user has to login to the software to use its features, and only the right combination of the login-id and password will let them use the software.

5.1.2 Stimulus/Response Sequences

INPUT : Username and Password.
OUTPUT : Displays message if username and password does not match otherwise enter into the home page.
PROCESS : Matches the username and password from the database.

5.1.3 Functional Requirements

Security : Security is a primary concern for the user while logging in with his/her account. The login must be secure and relevant.
Credentials: Login credentials are required at the server side so as to check for the concerned user.

Hardware- Software Requirements: The Android platform should be used on a software basis and application must support the version of the OS where it is being deployed.

5.2 Registration

5.2.1 Description and Priority

A user can register to the platform by filling up the necessary details of the registration form.

5.2.2 Stimulus/Response Sequences

INPUT: user inputs the credentials required for registration

OUTPUT: the user is registered on the platform

PROCESS: saves the data to the database

5.2.3 Functional Requirements

Server response: Server response is must while submitting the registration details so as to keep the interaction with client. The server side code is to be designed in a manner so that it can easily validate the data and send an immediate response to the client.

5.3 Posts of Diaries

5.3.1 Description and Priority

Posts of different diaries are present on the home screen. User can click to open the desired diary and read or react to its posts. It is a medium priority action.

5.3.2 Stimulus/Response Sequences

INPUT : username and password to login and come to home screen. Posts and diary available on one click.
OUTPUT : Detailed diary of the specific place. **PROCESS :** Extract the data from the database.

5.3.3 Functional Requirements

Software Requirements: The application must provide supporting APIs to the automatic data fetching feature for the posts and diaries.

5.4 Add Diary

5.4.1 Description and Priority

User can add a diary of a place whose diary does not exist. It is a medium priority action.

5.4.2 Stimulus/Response Sequences

INPUT : User credentials and name and description of the diary.
OUTPUT : Diary prepared.
PROCESS : Data entered to the database.

5.4.3 Functional Requirements

Software-Hardware Requirements: The server must not lag in sending a response for which the hardware and software both are responsible. Synchronization between the hardware and the software is necessary for a better performance.

5.5 Receiving Information regarding places via post

5.5.1 Description and Priority

Post updates along with all the information regarding the place, its USP, spot to visit and any other relevant information is to be shared with the user via notifications in real time.

5.5.2 Stimulus/Response Sequences

INPUT : Username and password to login is required to receive the notifications. **OUTPUT :** Notifications are received.
PROCESS : Tap over notifications and the contents will be displayed.

5.5.3 Functional Requirements:

Hardware- software Requirements : The application must support the post APIs and the android version on the device must support the application version in order to be deployed and work efficiently.

Connection : The connection between the server and client must be reliable and

efficient so as to receive the notifications in real time. Moreover, the server configuration is also an important perspective and the kind of data that is being sent by the server.

6 Non-functional Requirements

6.1 Performance Requirements

- **User Satisfaction**: The application must be such that it stands up to the user expectations.
- **Response Time**: The response of all the operation should be good.
- **Error Handling**: Response to user errors and undesired situations has been taken care of to ensure that the application operates without any uncertainty.
- **User friendliness**: The application is easy to learn and understand. A naive user can also use the system effectively, without any difficulties.

6.2 Reliability

The application is capable to maintain the specified level of performance. It will run on any android phone. (Version to be taken care)

6.3 Availability

The application will run 24*7 if the internet connection is available.

6.4 Compatibility

Compatibility with various filetypes and the type of information shared whether it is textual/images/documents etc. enhances the performance of the application. Moreover, the software designed should give support to the hardware device to work efficiently in all situations.

The application itself will only have minimal logic and so there should be little to no issues with the computation required by the phone itself. Each tool shall allow for at least 50-60 concurrent users. This amount of concurrent users is a guideline to enforce the software to be able to handle a significant amount of concurrent users.

6.5 Safety Requirements

As such, there are no safety requirements with this application, other than any normal hazards of a mobile device. The only hazard is a user using the device when they should not be, such as while driving or moving up-down over the

stairs and likewise.

6.6 Security Requirements

The software should provide a secure login to every individual user. Changing of user password is a necessary feature required by the user.
However, session management is to be established and ended at times of logging out .Making sure that no false requests are made by the user at times of feedback/complaints which can contribute to other users' integrity.
Additionally, the server side is to be regularly maintained and saved by the malicious attacks. Talking about the physical security options, the user should himself/herself take care that no other user uses his/her login account and perform unusual activities.

6.7 Software Quality Attributes

The primary attribute of this application will be usability given the precious data related to places and information that will be presented on such a small screen, as well as the user's ability to input data and posts while giving feedbacks and suggestions or adding posts and diaries into the device in a reasonable manner that should not be that much difficult than if they were at an actual computer.

As usability is hard to quantify, substantial user testing will be needed and feedback must be gathered in order to determine if the application can generally be considered usable or the users are really interested in using the application on daily basis.

Because this application will be on a phone, portability is also important. We don't want it to take up so much space or be too slow causing the users to not be able to fit it on the device.

Interoperability is something that is specifically not important, at least at the beginning. The Android device is being used because both of its popularity and the ability for the code to be open-source. This is in contrast to other phones, like the iPhone, which would not allow for open source application development and would go against the goals of the overall project. However, in the future, the ability to use this on other phones that support the goals of the project would be nice, but that is also outside of the scope of this project.

However, the software agrees to the quality features which are going to be included in the application and their total functionality which solely dedicates towards the users' solution to problems and issues.

6.8 Business Rules

User Role:
The user should feel responsible for securing his/her login account from other users.
Only one time registration for certain event will be provided to user. While giving

feedbacks and asking for information, one should be generous and be kind to the concerned authorities.

Admin Role:
The role of the admin is to maintain integrity of data without any discrete leak of information over personal issues or any other. He should be responsible in carrying out the information to all users without any manipulation. Admin is responsible to maintain the whole information sharing process efficiently to all users.

Developer Role:
The developer should understand his/her role in creating the application which should not exploit the rights of individuals and should design the software according to these needs of the user and not for any unrelated issues. It's his duty to understand that the kind of information and the data that is to be associated with the application is important to the users and it has to be trusted at the same time.

7 Other Requirements

7.1 Data Requirements

The application needs a database that will contain all the user details which will be required at the time of login and other information sharing. This data is to be managed by the admin. The data regarding various places and tourist spots needs to be inputted by the users of the social networking platform.

7.2 Reuse Requirements

The application requires that it should be designed in such a way that it is easy to integrate it at a later stage. Additionally, the software should provide session management for all features of the application to reuse it time to time.

8 Appendix A:

8.1 Glossary

GUI: Graphical User Interface. An interface that receives and reacts to the user input with a graphical display.

XML: Extensible Markup Language (XML) is a markup language that defines a set of rules for encoding documents in a format which is both human-readable and machine-readable.

Java: Java is a programming language originally developed by James Gosling at Sun Microsystems. Java is a general-purpose, concurrent, class-based, object-oriented language that is specifically designed to have as few implementation dependencies as possible.

OS: Operating System.

Android: Developed by Google, a popular operating system for smart phones.

RAM: Volatile memory used by the CPU for storing data too large to fit in a register along with execution code of the running programs.

Windows: Developed by Microsoft, the most widely used operating system for desktop computers.

SQLite: It is an in-process library that implements a self-contained, server less, zero-configuration, transactional SQL database engine.

Session: A timed period for when users can enter ideas/suggestions. It is where all of the information is kept for the related topic.

Moderator: The person who administers or controls the session.