< Journey Assistant >
Project Development Plan
Version 2.0

Group Member

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Modification History

Date	Version	Description	Author
2019-04-02	1.0	The first version of this document.	Yiwen Song
2019-06-18	2.0	Modify some part descirption.	Zhihui Xie

Contents

1 Intruduction

1.1 Purpose

The purpose of this project development plan is to help the project developers clarify their jobs, deadlines and technical outlooks of this project. We expect all the project developers (or anyone who are involved in the development of this project) to know the development plan of our project.

1.2 Background

There are some statement we need to make before entering the main part.

1. The NAME of our software system is Journey Assistant.
2. The project is our final project of Software Engineering course, developed by Yiwen Song, Zhihui Xie, Haoping Chen, Weizhe Wang and Huangfei Jiang of SEIEE, Shanghai Jiaotong University. The target user of our system is the travellers who are making their journey plans.
3. Our software system is an upgrade of the trip-recommendation system of Xiecheng, Tuyou, etc. We use automation algorithms to give journey plan recommendations, distinguished from the companies' manual recommendations.

1.3 Definition

Here we list some terms or abbreviations we will use in this file.

Abbreviation	Term	Implication
JAS	Journey Assistant System	Our Proposed System
	Android	An OS Developed by Google
OS	Operating System	
TCP/IP		A Network Protocol

1.4 Bibliography

1. <Feasibility Study Report> (GB8567-88)
2. <Object Oriented Software Engineering (Version 3)> (Tsinghua University Press)
3. <Clean Code> (Posts & Telecom Press)
4. <Machine Learning> (Tsinghua University Press)
5. <Object Oriented Software Engineering Practice Guidelines>

2 Project Outlook

2.1 Project Target and Job Contents

The purpose of our project is to develop a software system that can automatically recommend journey plans and do customized journeys given a plan, and give feedback according to the experience of the customized journey. The main jobs involved in this projects are:

1. Design a friendly user interface.
2. Design a good recommendation algorithm.
3. Implement the algorithm in a fast way in our software.
4. Design an port for the users to give advice.

2.2 Team Organization Pattern

The organization pattern of our project team are listed as follows.

1. Yiwen Song is the team leader. Organizes all the jobs, and will participate in algorithm designing and implementation and UI designing.
2. Zhihui Xie is in charge of technical works, including algorithm designing and implementation, API ports, etc.
3. Haoping Chen will be in charge of the desgning works including art, texts and interface design.
4. Huangfei Jiang will be in charge of the database construction works, who will be responsible for acquiring data from other companies' APIs, and maintaining our database.
5. Weizhe Wang will be in charge of the optimization works, who gives advice to all aspects of jobs and help make our software become more efficient and user-friendly.

2.3 Pruduct

2.3.1 Programs

The programs that will be delivered to the users are listed as follows.

The User-interface Module Coded with Java (complied to binary). Pakced in the main software program. This module is the manager of the user-interface, including login interface, destination-choosing interface, requirement-choosing interface and other display interfaces.

The Display-data Module Coded with C++ and Java (complied to binary). Packed in the main software program. The maps and figures needed are packed in folders and saved in the user's flash drive. This module receives the data from our server and display it to the user.

The Save-data Module Coded with Java (complied to binary). Packed in the main software program. This module saves key data to the user's device to enable offline-request.

2.3.2 Files

The files that will be delivered to the users are listed as follows.

The Operation Manual It tells the operations of our software.

The Service Agreement It orders the user to agree the protocols in order to use our software.

Essential Figures and Videos Some essential figures and videos are kept in the user's device. Therefore, the user does not need to query the essential data every time they use the software.

2.3.3 Services

The services that will be delivered to the users are listed as follows.

Application Maintainence Starts from installation, ends by uninstallation.

- Priority Level: Medium.
- Service Due Date: None.

User Guide Given at the first time the user uses the application.

- Priority Level: Low.
- Service Due Date: After the first use.

Bug Reporting Starts from installation.

- Priority Level: High.
- Service Due Date: None.

Advice Port Starts from the first use.

- Priority Level: Low.
- Service Due Date: None.

2.3.4 Non-delivered Products

The products that will NOT be delivered to the users are listed as follows.

1. The user database. Using MySQL. Saving the username, user info, and password.
2. The recommendation and customiaztion algorithm. Coded by C++ and Python.
3. Unessential figures and data.

2.4 Acceptance Certificate Standard

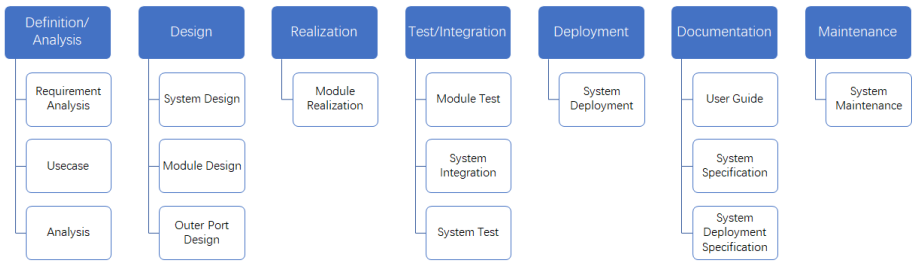
The whole system works well and stably, according to <Software Testing Standard> (GB15532-2008).

2.5 Predicted Completion Time and Latest Delay

The project is predicted to be completed on 2019.6.23, and the delay will be no more than 1 week.

3 Performance Plan

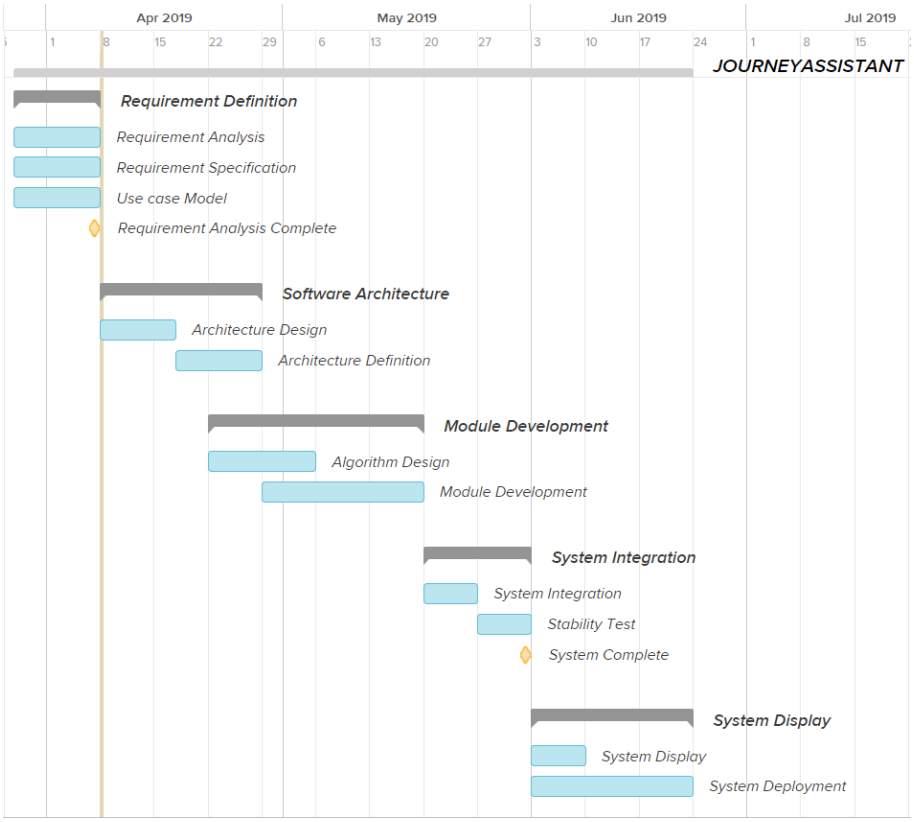
3.1 Split of Jobs and Division of Labor



Project	Leader	Participating Members
Requirement Analysis	Weizhe Wang	Huangfei Jiang
Use Case	Huangfei Jiang	Yiwen Song, Weizhe Wang
Analysis	Zhihui Xie	Haoping Chen
System Design	Yiwen Song	All
Module Design	Zhihui Xie	All
Outer Port Design	Zhihui Xie	Weizhe Wang, Huangfei Jiang
Module Realization	Yiwen Song	All others
Module Test	Weizhe Wang	Zhihui Xie, Haoping Chen
System Integration	Zhihui Xie	All others
System Test	Huangfei Jiang	Weizhe Wang, Zhihui Xie
System Development	Yiwen Song	All others
User Guide	Haoping Chen	Weizhe Wang, Huangfei Jiang
System Specification	Yiwen Song	Haoping Chen, Weizhe Wang
System Development Specification	Zhihui Xie	Yiwen Song, Weizhe Wang
System Maintainence	Weizhe Wang	All others

3.2 Phase Plans

Milestone Event	Predicted Time
Requirement Definition	2019.4.7
Software Architecture	2019.4.28
Module Development	2019.5.19
System Integration	2019.6.1
System Display	2019.6.9
System Deployment	2019.6.21
Project Completion	2019.6.23



3.3 Budget

We have a limited budget to complete the project, as our labor needs no salary. The main cost lies on the oursourcing work such as art design and server rent.

3.4 Key Problem

1. The safety of users' information. If the users' information were lost or stolen, it will cause greate economical loss and privacy cost.
2. The capability and stability of databse. If the stability or capability of database is not enough, the system may fail at unpredictable time.
3. Friendliness of user interface. A friendly user interface will attract more users.
4. Easiness of using. A easy-using software will keep more users.
5. The plan, communications, and technical restricts during our development. Our development progress may be delayed, prolonged or we may not be able to complete planned tasks.

4 Technological Process Plan

4.1 Methodology, Tools and Techniques

1. Our project is maily developed by Java, C++ and Python, use IDE Eclipse/IntelliJ, CLion, and PyCharm.
2. The database is maily developed by the open-source database MySQL.
3. We use structural development to split our whole system into several modules and develop them individually.
4. We use fountain model for the life cycle of our project.

4.2 Technical Standards

The technical standards we will use in our development include:

1. Business Modeling Guide: <Business Modeling Guide>
2. UI Guide: Google Material Design
3. Use case Modeling Guide: <Use-case Modeling Guide>
4. Design Guide: Google Material Design
5. Programming Guide: <Object Oriented Software Engineering>
6. Testing Guide: <Software Testing Standard>, Pearson (GB15532-2008)
7. Coding Scheme Guide: <Clean Code>, Robert C. Martin

5 External Support Conditions

5.1 Jobs Performed by Users

We need to users to create their account (sign up) the first time they use our software. Then their account will be saved in our database and they aren't required to do any further jobs. Other non-required jobs include bug reporting and giving advice.

5.2 Jobs Performed by Other Companies

We may use some API developed by other companies in our project. They include:

1. Map API supported by Gaode or Baidu Inc.
2. Scenary information API supported by MeituanDianping Inc.
3. Tensorflow, a deep learning development kit, developed by Google Inc.
4. Anaconda, a multi-functional kit for Python, developed by Anaconda Inc.
5. Open-source web frameworks such as bootstrap.
6. Other open-source codes developed by personal developers or small teams.

6 Plan Keywords

1. In the requirement management plan we will mainly focus on the requirement analysis, and make plans according to our ability to satisfy as much need as possible.
2. In the progress control plan, the key point is to control the progress as planned during our development of our project The quality control plan is mainly about to improve our project quality in planned time.
3. The risk management plan is mainly about reducing the risk during and after our completion of our project, and make plans before the accidents happen.
4. The equipment management plan is mainly about reducing the cost of our equipments under the constraints of quality control
5. The system testing plan is mainly about finding as much bugs and repair them as possible before our software finally goes into the application market.
6. The system acceptance plan is mainly about making a proper standard for our project. The standard should not be too hard to pass, but also not be too easy so that the software may not be friendly at last.
7. The developer training plan is mainly about training developers to complete the tasks they should do.
8. The system installation plan is mainly about finding a proper way to make a good sequence to install the system