

# A Real Time and Interactive Dashboard for Tourism Industry

## Project Plan

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# Table of Contents

1. Document History .....	4
2. Introduction.....	6
2.1 Identification .....	6
2.2 Project Overview .....	6
2.3 Purpose.....	6
2.4 Work Product to be developed.....	7
2.5. Acronyms and Definitions .....	8
3. Infrastructure.....	11
3.1 Development Tools .....	11
3.2 Hardware and Material Resources .....	11
4. Management Procedures .....	12
4.1 Project Team Structures .....	12
4.2 Monitoring and Controlling Mechanisms.....	13
4.2.2 Software Development Process Model .....	14
5. Quality Standard .....	15

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	2
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

5.1 ISO 29110 for Very Small Entity (VSE) .....	15
5.2 Project Management Process .....	15
5.3 Software Implementation Process.....	17
6. Quality Planning .....	19
6.1 Reviews/Responsibility.....	19
6.2 Testing.....	20
7. Estimated Duration of Tasks.....	21
8. Software Configuration Management.....	22
8.1 Naming Convention .....	22
8.2 Change Management .....	22
8.3 Project Repository.....	23
9. Risk Management .....	25
9.1 Risk Identifications and Solutions .....	25
10. Schedule.....	26
11. List of Figures .....	30
12. Reference .....	31

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	3
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

# 1. Document History

History	Status	Date	Viewable	Editable	Responsible
<b>ProjectPlan_v1.docx</b>  Create:  - Introduction  - Infrastructure  - Management procedures  - Quality standard  - Quality planning  - Estimated Duration of Tasks  - Software Configuration Management  - List of Figures	Draft	7, July 2019	ZJY, LYW, AJP	ZJY, LYW	ZJY, LYW

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	4
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

<b>ProjectPlan_v2.docx</b>  Modify:  - Management procedures	Draft	22, Aug 2019	ZJY, LYW, AJP	ZJY, LYW	ZJY, LYW
<b>ProjectPlan_v3.docx</b>  Modify:  - Management procedures	Final	23, Sep 2019	ZJY, LYW, AJP	ZJY, LYW	ZJY, LYW

ZJY = Junyu Zhou

LYW = Yawei Li

AJP = Dr. Pree Thiengburanathum

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	5
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

## **2. Introduction**

### **2.1 Identification**

This Project Management Plan is the document for planning, scheduling activities and evaluating overall of the project so that it could complete successfully despite all the risks. It provides detailed scheduled, assigned task and identified risks of the project.

### **2.2 Project Overview**

A Real Time and Interactive Dashboard for Tourism Industry is developed for the decision maker to view and manage the data easily and efficiently. Due to a large number of data, there are numerous work and extra things to do for doing statistics. A real time and interactive dashboard in tourism industry will provide the effective platform to decision maker to manage and statistics the massive data.

### **2.3 Purpose**

A Real Time and Interactive Dashboard for Tourism Industry is a web-based application. It is for decision maker to do the easy statistics of mess data in a real time way. For decision maker to manage and keep tracks all the data.

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	6
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

## 2.4 Work Product to be developed

### 2.4.1 Deliverable

No.	Deliverables/Release	Media	Copies	Date
1	<b>Project Proposal</b>  Proposal Version	Hard Copy	3	7, July  2019
2	<b>Progress Report I</b>  Project Management Plan_v2  Software Requirement Specification_v2  Software Design Document_v2  Test Plan_v2  Traceability Record_v2  Application Demo	Hard Copy	3	30, July  2019
3	<b>Progress Report II</b>  Project Management Plan_v3  Software Requirement	Hard Copy	3	23, Sep  2019

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	7
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

	Specification_v3			
	Software Design Document_v3			
	Test Plan_v3			
	Traceability Record_v3			
	Application Demo			

#### 2.4.2 Non-Deliverables

No.	Deliverables/Release	Media
1	10 mins presentation	File

### 2.5. Acronyms and Definitions

#### 2.5.1 Acronyms

ZJY = Junyu Zhou

LYW = Yawei Li

AJP = Dr. Pree Thiengburanathum

SRS = Software Requirement Specification

SDD = Software Design Document

OS = Operating System

SE = Very Small Entity

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	8
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019



PM = Project Management

SI = Software Implementation

IID = Iterative and Incremental Development

SCI = Software Configuration Item

### 2.5.2 Definitions

Name	Definition
Acceptance test	Test activities for sample checks to verify that the system (or product, solution) has the right quality for deployment or usage. Often acceptance test is done by the customer. [1]
Feature	Transformation of input parameters to output parameters based on a specified algorithm. It describes the functionality of the product in the language of the product. Used for requirements analysis, design, coding, testing or maintenance. [2]
IEEE	Institute for Electrical and Electronics Engineers. Biggest global interest group for engineers of different branches and computer scientists. [3]
Plan	A documented series of tasks requires meeting an objective, typically including the associated schedule, budget, resources, organizational description and work breakdown structure. [4]

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	9
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

Project Management	The application of knowledge, skills, tools, and techniques to project activities in order to meet or exceed stakeholder needs and expectations from a project. [5]
Project Plan	A formal, approved document used to guide both project execution and project control. The primary uses of the project plan is to document planning assumptions and decision, to facilitate communication among stakeholders, and to document approved scope, cost, and schedule baseline. [6]
Risk	An uncertain event or condition that, if it occurs, has a positive or negative effect on the project's objectives. It is a function of the probability or occurrence of a given threat's occurrence. [7]

### 2.5.3 Next progress working products

Feature-3. View the word-cloud of data.

Description: Decision maker could view data presented in word-cloud.

Feature-4. View the heatmap of data.

Description: Decision maker could view data presented in a heatmap.

Feature-5. View the data by name, date, sentiment or search for reviews.

Description: Decision maker could view data by select the filter or input reviews to search.

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	10
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

## **3. Infrastructure**

### **3.1 Development Tools**

PyCharm

Visual Studio Code

MongoDB

Pusher

React

Flask

GitHub

### **3.2 Hardware and Material Resources**

#### **Computer:**

MacBook Pro (Retina, 15-inch, Mid 2015)

Processor: 2.2 GHz Intel Core i7

Memory: 16 GB 1600 MHz DDR3

OS: MacOS Catalina 0.15 Beta (19A501i)

MacBook Pro MacBook Pro (15-inch, 2019)

Processor: 2.3 GHz Intel Core i9

Memory: 32 GB 2400 MHz DDR4

OS: MacOS Mojave 10.14.6

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	11
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

## 4. Management Procedures

### 4.1 Project Team Structures

Participants	Activities
ZJY,  LYW	Feasibility Study  Project Proposal  Project Requirements  Project Plan  Project Design  Implementation  Record Changes  Testing

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	12
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

## 4.2 Monitoring and Controlling Mechanisms

### 4.2.1 Project Meeting

Participants	Roles
ZJY,  LYW	Development team member
AJP	Project advisor

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	13
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

#### 4.2.2 Software Development Process Model

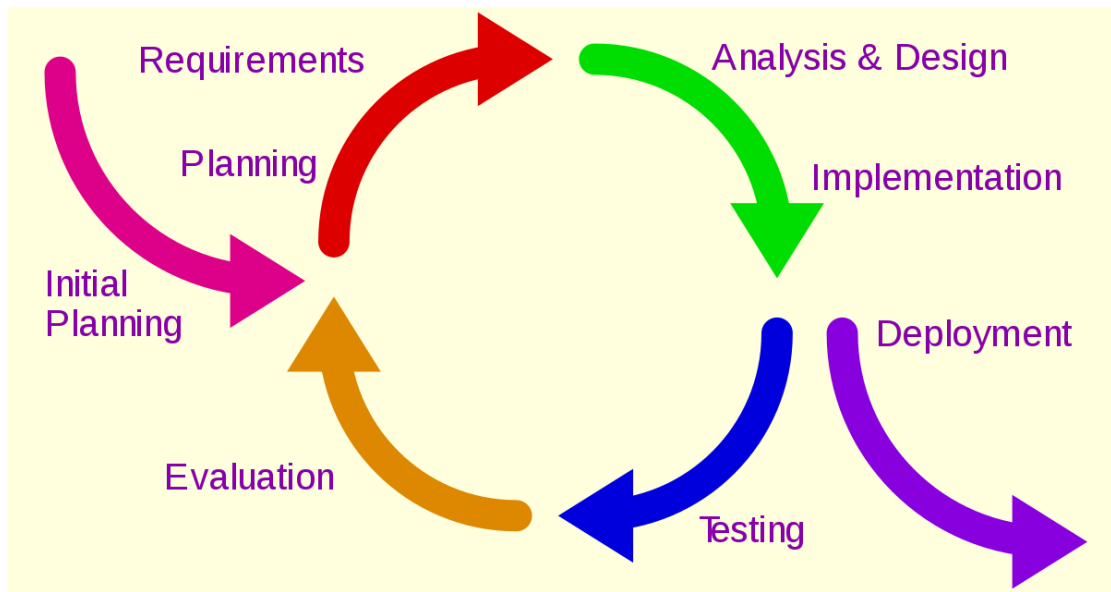


Figure 1: Software Development Process Model

The iterative model is an implementation of a software development life cycle that focuses on an initial, simplified implementation, which then progressively gains more complexity and a broader feature set until the final system is complete. In short, iterative development is a way of breaking down the software development of a large application into smaller pieces.

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	14
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

# 5. Quality Standard

## 5.1 ISO 29110 for Very Small Entity (VSE)

ISO 29110[8] is a guide applies to a Very Small Entity (VSE), enterprise, organization, department or project up to 25 people, dedicated to software development. The Guide provides Project Management and Software Implementation processes which integrate practices based on the selection of ISO/IEC 12207- Systems and Software Engineering —Software Life Cycle Processes and ISO/IEC 15289 Software Engineering – Software Life Cycle Process – guidelines for the content of software life cycle process information products (documentation) standards elements.

## 5.2 Project Management Process

### Purpose:

The purpose of the software management process is to establish and carry out in a systematic way the task of the software implementation project that allows complying with the project's objectives in the expected quality. Time and cost.

### Objective:

**PM. 01.** The Project Plan for the execution of the project is developed according to the Statement of Work and validated with the Customer. The tasks and resources necessary to complete the work are sized and estimated.

**PM.02.** Progress of the project is monitored against the Project Plan and recorded

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	15
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

in the Progress Status Record. Corrections to remediate problems and deviations from the plan are taken when project targets are not achieved. Appropriate treatment is taken to correct or avoid the impact of risk. Closure of the project is performed to get the Customer acceptance documented in the Acceptance Record.

**PM.03.** The Change Requests are addressed through their reception and analysis. Changes to software requirements are evaluated for cost, schedule and technical impact.

**PM.04.** Review meetings with the Work Team and the Customer are held. Agreements are registered and tracked.

**PM.05.** Risks are identified as they develop and during the conduct of the project.

**PM.06.** A software Version Control Strategy is developed. Items of Software Configuration are identified, defined and baseline. Modifications and releases of the items are controlled and made available to the Customer and Work Team including the storage, handling and delivery of the items.

**PM.07.** Software Quality Assurance is performed to provide assurance that work products and processes comply with the Project Plan and Requirements Specification.

### Activities

**PM.01.** Project Planning

**PM.02.** Project Plan Execution

**PM.03.** Project Assessment and Control

**PM.04.** Project Closure

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	16
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019



### 5.3 Software Implementation Process

#### Purpose:

The purpose of the Software Implementation process is the systematic performance of the analysis, design, construction, integration and tests activities for new or modified software products according to the specified requirements.

#### Objectives:

**SI.01.** Tasks of the activities are performed through the accomplishment of the current Project Plan.

**SI.02.** Software requirements are defined, analyzed for correctness and testability, approved by the Customer, baseline and communicated.

**SI.03.** Software architectural and detailed design is developed and baseline. It describes the software items and internal and external interfaces of them. Consistency and traceability to software requirements are established.

**SI.04.** Software components defined by the design are produced. Unit test are defined and performed to verify the consistency with requirements and the design. Traceability to the requirements and design are established.

**SI.05.** Software is produced performing integration of software components and verified using Test Cases and Test Procedures. Results are recorded at the Test Report. Defects are corrected and consistency and traceability to Software Design are established.

**SI.06.** A Software Configuration that meets the Requirements Specification

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	17
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

as agreed to with the Customer, which includes user, operation and maintenance documentations is integrated, baseline and stored at the Project Repository. Needs for changes to the Software Configuration are detected and related Change Requests are initiated.

**SI.07.** Verification and Validation tasks of all required work products are performed using the defined criteria to achieve consistency among output and input products in each activity. Defects are identified and corrected; records are stored in the Verification/Validation Results.

### **Activities**

**SI.01.** Software Implementation Initiation

**SI.02.** Software Requirements Analysis

**SI.03.** Software Architectural and Detailed Design

**SI.04.** Software Construction

**SI.05.** Software Integration and Tests

**SI.06.** Product Delivery

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	18
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

## **6. Quality Planning**

### **6.1 Reviews/Responsibility**

<b>Stage Exit Review</b>			
<b>No.</b>	<b>Stage</b>	<b>Review Item</b>	<b>Responsibility</b>
1	Project Planning	Project plan	ZJY, LYW
2	Requirement Specification	Software Requirement Specification	ZJY, LYW
3	Architecture and Detailed Design	Software Design Document	ZJY, LYW
4	Implementation	Code	ZJY, LYW
5	Software Testing	Test Plan	ZJY, LYW
6	Software Testing	Test Record	ZJY, LYW
7	Project Monitoring and Control	Traceability Record	ZJY, LYW

Document Name	Project- ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	19
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

## 6.2 Testing

Stage Exit Review		
No.	Test	Responsibility
1	Unit Testing	ZJY, LYW
2	System Testing	ZJY, LYW

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	20
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

## **7. Estimated Duration of Tasks**

<b>Task and Estimated Duration</b>		
<b>No.</b>	<b>Phase</b>	<b>Estimated Duration (Days)</b>
1	Proposal	20
2	Progress I	60
3	Progress II	32
4	Final Progress	64
Total		176

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	21
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

# **8. Software Configuration Management**

## **8.1 Naming Convention**

For the filename format that we use for all documents is:

Project- [File Name] \_v[Version]. [File Type]

- File Name - This part will depend on substance of that file.
- Version - This part is the version of file. Version number will be in this format “[Main version]. [Sub version]”
- File Type - This part is type of file.

(I.E. Project- ProjectPlan\_v1.docx)

## **8.2 Change Management**

Change management manages all of the changes in the project during development process. All of the change requests will be record into the change record document.

The procedures for managing changes are:

1. Discuss with advisor about the change.
2. Record the change information to change document.
3. Send the change request to advisor.

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	22
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

3.1 Request accepted: change document and software follow the change information.

3.2 Request rejected: continue on and find alternative solution.

### 8.3 Project Repository

This project uses “GitHub” to manage the version of document and software. It can be used to store and share code or binary files for software development projects.

The repository’s directories will be created as following:

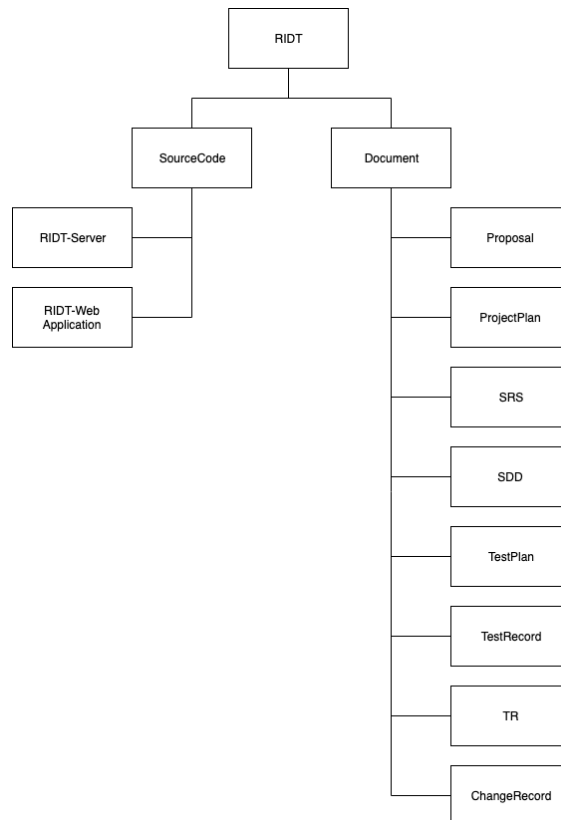


Figure 2: Project Repository

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	23
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

## 8.4 Software Configuration Table

No.	Item	File Name	Owner	Path	Version
1	Project Proposal	Project-Proposal_v8.docx	ZJY, LYW	/RIDT/Documents/Proposal	8.0
2	Project plan	Project-ProjectPlan_v3.docx	ZJY, LYW	/RIDT/Documents/ProjectPlan	3.0
3	System Requirement Specification	Project-Software Requirement Specification_v3.docx	ZJY, LYW	/RIDT/Documents/ SystemRequirementSpecification	3.0
4	TestPlan	Project-Test plan_v3.docx	ZJY, LYW	/RIDT/Documents/ TestPlan	3.0
5	TestRecord	Project-Test Record_v3.docx	ZJY, LYW	/RIDT/Documents/ TestRecord	3.0
6	TraceablityRecord	Project- TraceabilityRecord_v3.docx	ZJY, LYW	/RIDT/Documents/ TraceablityRecord	3.0
7	TraceablityRecord	Project- TraceabilityRecord_v3.docx	ZJY, LYW	/RIDT/Documents/TraceablityRecord	3.0
8	ExecutiveSummary	Project- ExecutiveSummary_v3.docx	ZJY, LYW	/RIDT/Documents/ ExecutiveSummary	3.0

Document Name	Project- ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	24
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019



# 9. Risk Management

## 9.1 Risk Identifications and Solutions

No.	Risk statement	Solution
1	The developer lacks necessary skills for project development	- Study from textbook or online resources.
2	The requirements might change.	- Make change request form and discuss with advisor to reprioritize the changed requirements.
3	The process flow might not keep up with the project schedule.	- Start tasks execution before their schedule.  - Prioritize tasks and to do more important works first.

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	25
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

# 10. Schedule

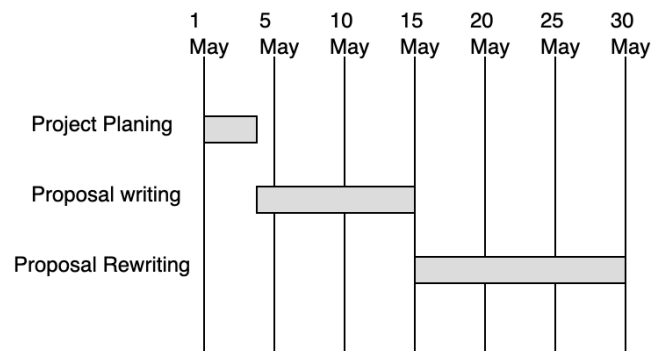


Figure 3: May Plan

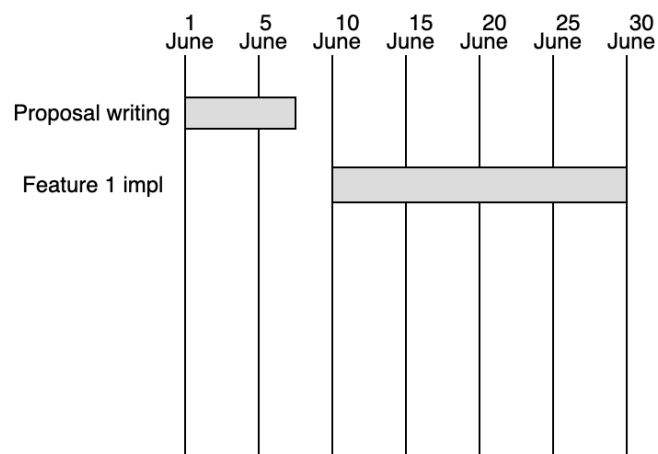


Figure 4: June Plan

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	26
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

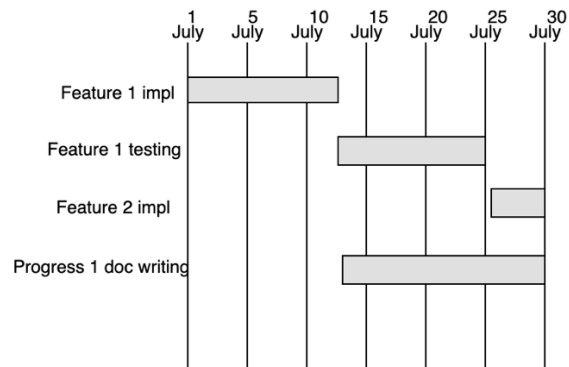


Figure 5: July Plan

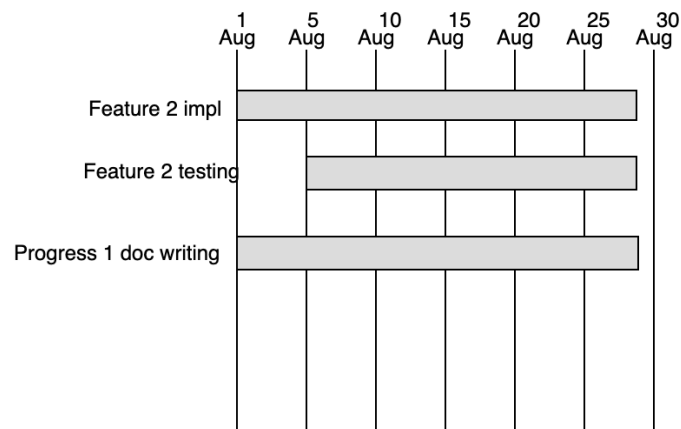


Figure 6: Aug Plan

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	27
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

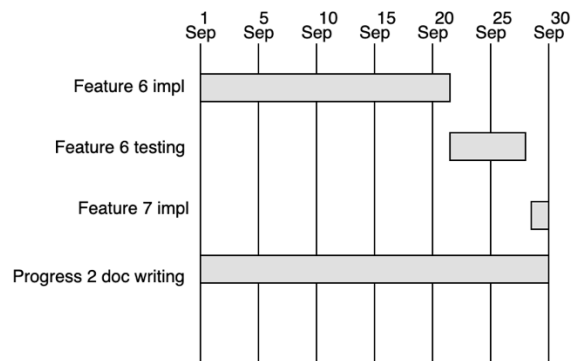


Figure 7: Sep Plan

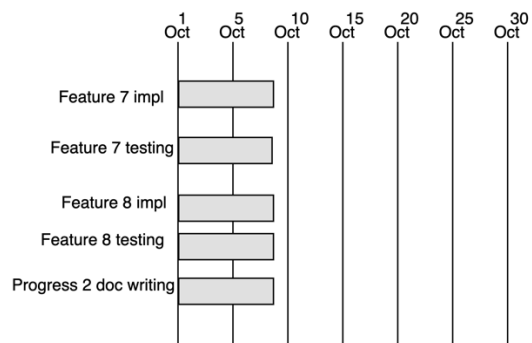


Figure 8: Oct Plan

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	28
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

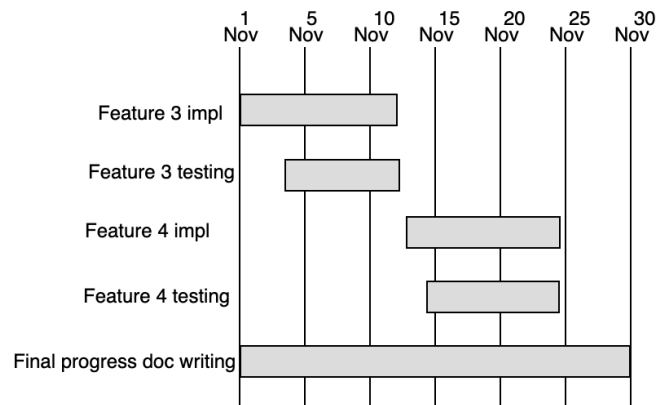


Figure 9: Nov Plan

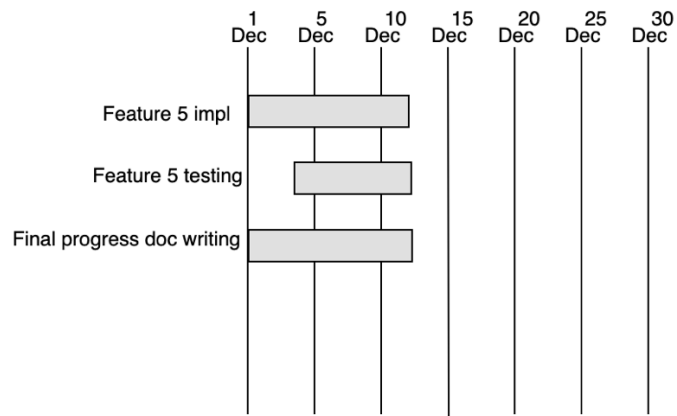


Figure 10: Dec Plan

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	29
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

# 11. List of Figures

Figure 1: Software Development Process Model.....	14
Figure 2: Project Repository .....	23
Figure 3: May Plan .....	26
Figure 4: June Plan .....	26
Figure 5: July Plan .....	27
Figure 6: Aug Plan.....	27
Figure 7: Sep Plan.....	28
Figure 8: Oct Plan .....	28
Figure 9: Nov Plan.....	29
Figure 10: Dec Plan .....	29

Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	30
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019

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Document Name	Project-ProjectPlan_v2.docx	Owner	Junyu Zhou Yawei Li	Page	31
Document type	Project Management Plan	Release date	8 Oct, 2019	Print date	9 Oct 2019