REVISION HISTORY

Date	Version	Description	Author
12.10.2020	0.1	A description of the project is added	Tuğcan Hoşer Uygar Kaya
13.10.2020	0.2	Explaining of document overview	Utku Özkan Tuna Tuncer
13.10.2020	0.3	Gantt chart is added	Tuna Tuncer Onur Alaçam
15.10.2020	0.4	Workstation is added	Onur Alaçam Tuğcan Hoşer
15.10.2020	0.5	Requirements management and documentation, Software design are added	Uygar Kaya Utku Özkan
16.10.2020	0.6	Responsibilities table is added	Utku Özkan Tuğcan Hoşer
16.10.2020	0.7	Risk analysis table is added	Tuğcan Hoşer Uygar Kaya
17.10.2020	0.8	Risk planning table is added	Onur Alaçam Tuna Tuncer
23.10.2020	0.9	Coding and automated test is edited	Tuna Tuncer Utku Özkan
24.10.2020	1.0	Gantt chart is edited Risk analysis is edited	Tuğcan Hoşer Uygar Kaya

TABLE OF CONTENTS

1 Identification

1.1 Document overview

This document contains the software development plan of software FB.

FB (Flappy Bird) is a desktop application for entertaining and mentally relaxing the people in their spare time. In addition to these, the game will also be responsible for enhancing the people's attention.

1.2 Abbreviations

1.2.1 Abbreviations

FB: Flappy Bird
JDK: Java Development Kit
UML: Unified Modelling Language
IDE: Integrated Development Environment
SDP: Software Development Plan
SDD: Software Design Document
SRS: Software Requirement Specification
STP: Software Test Plan
STR: Software Test Report

1.3 References

1.3.1 Project References

#	Document Identifier	Document Title

2 Software Development Activities

The section lists and describes the software development activities of FB software development project.

2.1 Software development process

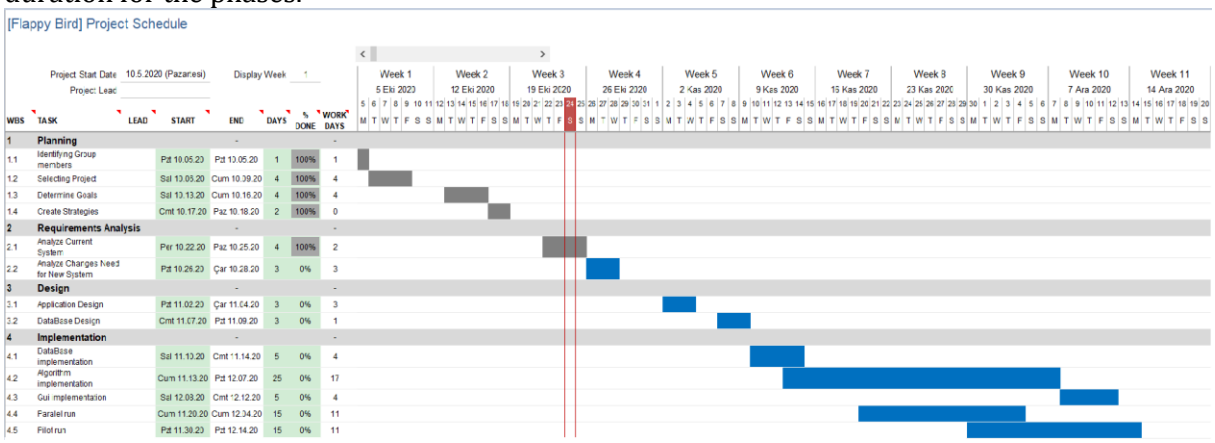
This is a course project, which adopts the waterfall model as the software development process.

2.1.1 Overview of process phases

The software development process for the project will be composed of the following phases:

- Planning
- Requirements Analysis
- Design
- Implementation
- Testing and Analysis

These phases will follow each other sequentially, where each phase starts just after the completion of the previous one. The following Gantt chart depicts the planned start date and duration for the phases.



2.1.2 Technical documentation

The following documentation is produced during the software development phases:

- Software specification: SRS, STP
- Software detailed conception: SDD
- Software tests phases: STR
- Software analysis: SAR

2.1.3 Deliverables

The following items will be delivered at the end of the process:

- Technical documentation as outlined in Section 2.1.2
- Software and its configuration files

2.2 Software development tools

2.2.1 Workstation

5 laptop computers will be used with the following configuration:

- Intel Core i7-10750H CPU x64 Bit @ 2.6 GHz, 16 GB RAM, Windows 10 pro
- Intel Core i7-9750H CPU x64 Bit @ 2.6 GHz, 16 GB RAM, Windows 10
- Intel Core i5-8250U CPU x64 Bit @ 1.6 GHz, 12 GB RAM, Windows 10
- Intel Core i7-7700HQ CPU x64 Bit @ 2.8 GHz, 16 GB RAM, Windows 10
- Intel Core i7-4510U CPU x64 Bit @ 2.6 GHz, 8 GB RAM, Windows 10 pro

2.2.2 Requirements management and documentation

Microsoft Word will be used for requirements documentation.
Microsoft Excel will be used for creating Gantt Chart.

2.2.3 Software Design

- Eclipse UML Lab Class Diagrams tool for determining coding scheme.
- IntelliJ UML Class Diagrams tool for determining coding scheme.

2.2.4 Coding and automated tests

- JUnit version 5.6.2: Enabling many different styles of testing.
  : https://junit.org/junit5/
- IntelliJ version 2020.1.1 (edu): To write code and design the application
  2020.2.3 (edu)
  : https://www.jetbrains.com/idea/
- Eclipse version 2018-12 (4.10.0): To write code and design the application
  2019-12 (4.14.0)
  : https://www.eclipse.org/
- JDK Java version 8, 11 ,15: The JDK allows developers to create Java programs that can be executed and run by the JVM and JRE.
  : https://www.oracle.com/java/technologies/javase-downloads.html

2.2.5 Configuration management

GitHub[1] will be used for software configuration management and tracking issues regarding the software development. A public repository will be created for this purpose.

2.3 Software development rules and standards

UML[2] will be used for software design documentation.

3 Responsibilities

3.1 Activities and responsibilities

Activity	Responsibility	Comment
Project management	Tuğcan Hoşer, Uygar Kaya	
Configuration tools management	Tuna Tuncer	
Setting up the Development tools	Utku Özkan	
Database Design	Onur Alaçam	
Algorithms Implementation	Tuğcan Hoşer, Utku Özkan Onur Alaçam	
Application Design	Uygar Kaya, Tuna Tuncer	

[1] http://www.github.com
[2] http://www.uml.org/

4 Risk Assessment

4.1 Risk Analysis

Risk	***Probability***	***Effects***
Main workers are diseased and inaccessible several times.	Moderate	Insignificant
Required training for staff is not available.	High	Tolerable
Software tools cannot work together in an integrated way.	Low	Serious
Changes to requirements that require major design rework are proposed.	High	Serious
The time required to develop the software is underestimated.	Moderate	Tolerable
Group members may not work together in an integrated way	Moderate	Insignificant

4.2 Risk Planning

Risk type	***Potential indicators***
People	At crucial times, key workers are sick and inaccessible. The training for employees needed is not available. Group members could not cooperate in an organized manner.
Tools	In an automated way, software instruments do not work together.
Requirements	Changes are proposed to specifications that require significant reworking of the design.
Estimation	The time taken for the program to evolve is underestimated.

Risk	***Strategy***
Staff illness	Sharing the workload of the sick group member to the whole group.
Lack of knowledge	The group member who knows the job teaches group members who do not.
Integration issues	Online compilers can be used.
Requirements reworking	Creating a understandable and reorganizable plan at the very beginning of the project.
Time estimation problem	Increasing the workload and work hours of group members.
Cooperating issues	Try to solve problems by talking.