REVISION HISTORY

Date	Version	Description	Author
05.10.2019	1.0	Assignment of work to Members	Kerem Güre
05.10.2019	1.1	Completed Document overview, Added some info into Coding and automated tests and Activities and responsibilities	Burak Deniz
06.10.2019	1.2	Added some tools into Software Design (2.2.3) and Coding and automated tests (2.2.4)	Cenker Karaörs
06.10.2019	1.3	Risk Analysis table added	Denizcan Özpınar
07.10.2019	1.4	Added a Gannt Chart, also merged all the revisions so far and did minor fixes and suggestions on them.	Kerem Güre
07.10.2019	1.5	Added workstation specifications to Workstation (2.2.1), tools for management and documentation to Requirements management and documentation (2.2.2), edited Activities and Responsibilities (3.1), added indicator and actions to take to Risk Planning (4.2)	Barış Özbaş
08.10.2019	1.6	Risk analysis table extended Risk planning table added	Emre Ay
08.10.2019	1.7	Moved everything to Google Docs and did minor fixes	Kerem Güre
15.10.2019	2.0	Removed Project References, assigned category 2.2.1 to members and added Java Coding Guide to 2.3	Kerem Güre
15.10.2019	2.1	Added my workstation specifications	Burak Deniz
15.10.2019	2.2	Added my workstation information	Denizcan Özpınar
16.10.2019	2.3	Added my workstation specifications	Barış Özbaş
16.10.2019	2.4	Made last checks and minor modifications for V2 Submission	Kerem Güre

TABLE OF CONTENTS

1 Identification

1.1 Document overview

This document contains the software development plan of software BPP.

Our project is a web-based project. In our project, we want to create a WebApp where people can choose the computer parts they want and buy them. On our web page, we aim to create a shopping site like Hepsiburada.

1.2 Abbreviations

1.2.1 Abbreviations

BPP: Build a PC Project
UML: Unified Modeling Language
IDE: Integrated Development Environment
JDK: Java Development Kit
SRS: Software Requirement Specification
STP: Software Test Plan
SDP: Software Development Plan
SDD: Software Design Document
STR: Software Test Report
SQL: Structured Query Language
MSSQL: Microsoft SQL Server
MSSQLMS: Microsoft SQL Server Management Studio

2 Software Development Activities

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

2.1 Software development process

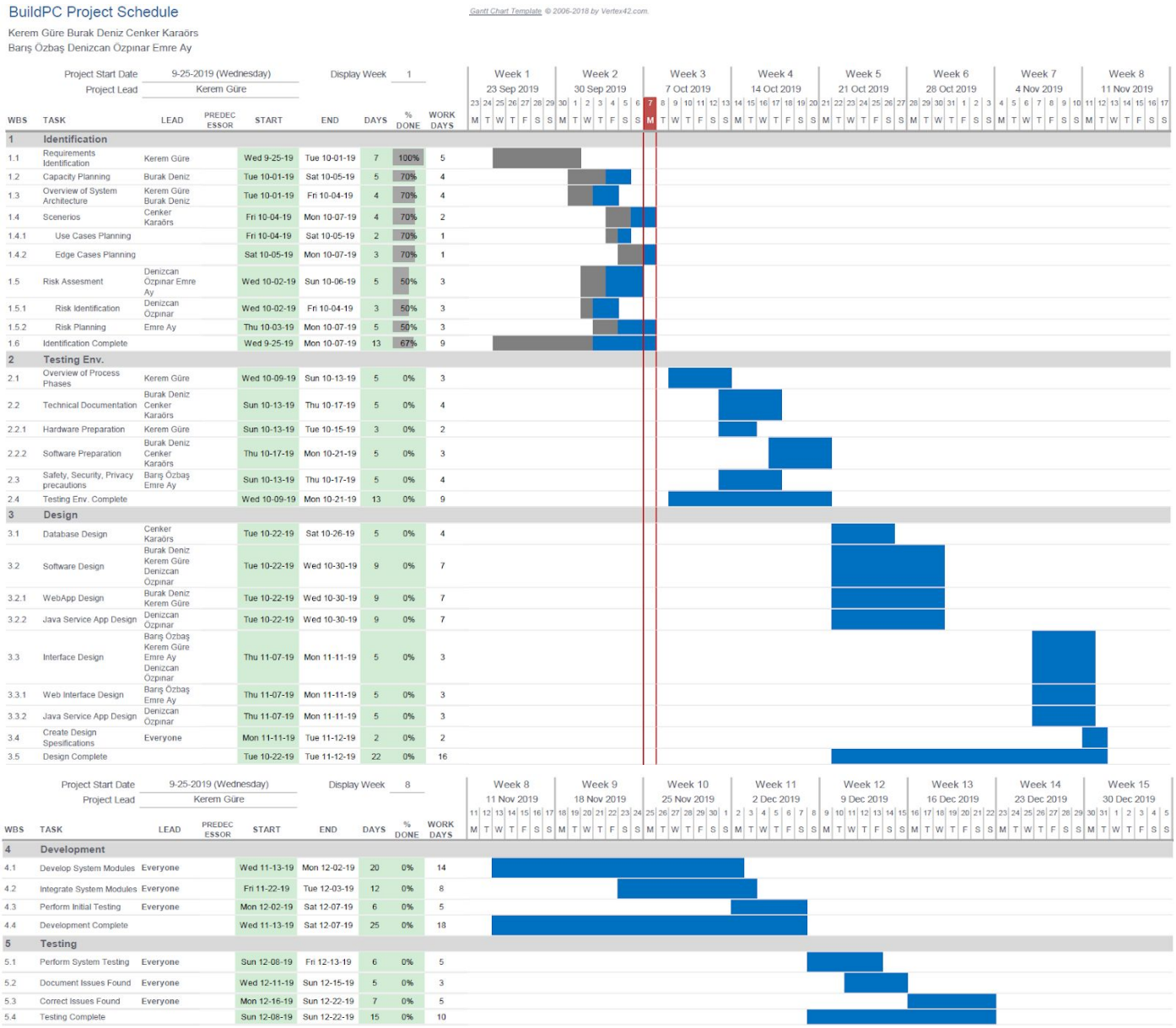
This is a course project, which adopts the waterfall model as the software development process.

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 of the phases.



BuildPC Project Schedule

Kerem Güre Burak Deniz Cenker Karaörs
Barış Özbaş Denizcan Özpınar Emre Ay

Gantt Chart Template © 2006-2018 by Vertex42.com.

Project Start Date: 9-25-2019 (Wednesday) — Display Week: 1
Project Lead: Kerem Güre

WBS	TASK	LEAD	PREDECESSOR	START	END	DAYS	% DONE	WORK DAYS
1	**Identification**							
1.1	Requirements Identification	Kerem Güre		Wed 9-25-19	Tue 10-01-19	7	100%	5
1.2	Capacity Planning	Burak Deniz		Tue 10-01-19	Sat 10-05-19	5	70%	4
1.3	Overview of System Architecture	Kerem Güre, Burak Deniz		Tue 10-01-19	Fri 10-04-19	4	70%	4
1.4	Scenerios	Cenker Karaörs		Fri 10-04-19	Mon 10-07-19	4	70%	2
1.4.1	Use Cases Planning			Fri 10-04-19	Sat 10-05-19	2	70%	1
1.4.2	Edge Cases Planning			Sat 10-05-19	Mon 10-07-19	3	70%	1
1.5	Risk Assesment	Denizcan Özpınar, Emre Ay		Wed 10-02-19	Sun 10-06-19	5	50%	3
1.5.1	Risk Identification	Denizcan Özpınar		Wed 10-02-19	Fri 10-04-19	3	50%	3
1.5.2	Risk Planning	Emre Ay		Thu 10-03-19	Mon 10-07-19	5	50%	3
1.6	Identification Complete			Wed 9-25-19	Mon 10-07-19	13	67%	9
2	**Testing Env.**							
2.1	Overview of Process Phases	Kerem Güre		Wed 10-09-19	Sun 10-13-19	5	0%	3
2.2	Technical Documentation	Burak Deniz, Cenker Karaörs		Sun 10-13-19	Thu 10-17-19	5	0%	4
2.2.1	Hardware Preparation	Kerem Güre		Sun 10-13-19	Tue 10-15-19	3	0%	2
2.2.2	Software Preparation	Burak Deniz, Cenker Karaörs		Thu 10-17-19	Mon 10-21-19	5	0%	3
2.3	Safety, Security, Privacy precautions	Barış Özbaş, Emre Ay		Sun 10-13-19	Thu 10-17-19	5	0%	4
2.4	Testing Env. Complete			Wed 10-09-19	Mon 10-21-19	13	0%	9
3	**Design**							
3.1	Database Design	Cenker Karaörs		Tue 10-22-19	Sat 10-26-19	5	0%	4
3.2	Software Design	Burak Deniz, Kerem Güre, Denizcan Özpınar		Tue 10-22-19	Wed 10-30-19	9	0%	7
3.2.1	WebApp Design	Burak Deniz, Kerem Güre		Tue 10-22-19	Wed 10-30-19	9	0%	7
3.2.2	Java Service App Design	Denizcan Özpınar		Tue 10-22-19	Wed 10-30-19	9	0%	7
3.3	Interface Design	Barış Özbaş, Kerem Güre, Emre Ay, Denizcan Özpınar		Thu 11-07-19	Mon 11-11-19	5	0%	3
3.3.1	Web Interface Design	Barış Özbaş, Emre Ay		Thu 11-07-19	Mon 11-11-19	5	0%	3
3.3.2	Java Service App Design	Denizcan Özpınar		Thu 11-07-19	Mon 11-11-19	5	0%	3
3.4	Create Design Spesifications	Everyone		Mon 11-11-19	Tue 11-12-19	2	0%	2
3.5	Design Complete			Tue 10-22-19	Tue 11-12-19	22	0%	16

Project Start Date: 9-25-2019 (Wednesday) — Display Week: 8
Project Lead: Kerem Güre

WBS	TASK	LEAD	PREDECESSOR	START	END	DAYS	% DONE	WORK DAYS
4	**Development**							
4.1	Develop System Modules	Everyone		Wed 11-13-19	Mon 12-02-19	20	0%	14
4.2	Integrate System Modules	Everyone		Fri 11-22-19	Tue 12-03-19	12	0%	8
4.3	Perform Initial Testing	Everyone		Mon 12-02-19	Sat 12-07-19	6	0%	5
4.4	Development Complete			Wed 11-13-19	Sat 12-07-19	25	0%	18
5	**Testing**							
5.1	Perform System Testing	Everyone		Sun 12-08-19	Fri 12-13-19	6	0%	5
5.2	Document Issues Found	Everyone		Wed 12-11-19	Sun 12-15-19	5	0%	3
5.3	Correct Issues Found	Everyone		Mon 12-16-19	Sun 12-22-19	7	0%	5
5.4	Testing Complete			Sun 12-08-19	Sun 12-22-19	15	0%	10

2.1.2 Technical documentation

The following documentations are produced during the software development phases:

- Software specification: SDP, 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

DigitalOcean Server:
- 3 GB Memory
- 2vCPU
- 3TB of data transfer limit
- 25GB SSD

Kerem's Workstation:
- Windows 10 Pro
- Intel i5-8300H Quad Core @ 2.5GHz CPU
- 16GB RAM

Cenker's Workstation:
- Windows 10 Pro
- Intel i7-8750H Quad Core @ 2.5GHz CPU
- 16GB RAM

Burak's Workstation:
- Windows 10 Home
- Intel i7-7700HQ Quad Core @ 2.8GHz CPU
- 16GB RAM

Emre's Workstation
- Windows 10 Education
- Intel i7-8750H @ 2.2GHz CPU
- 16GB RAM

Denizcan's Workstation:
- macOS Catalina
- Intel i7-6820HQ @ 2.7GHz CPU
- 16GB RAM

Barış' Workstation:
- Windows 8.1 Pro
- Intel i5-32300M Quad Core @ 2.6GHz CPU
- 8GB RAM

2.2.2 Requirements management and documentation
- Microsoft Word
- Microsoft Excel
- Google Docs
- Github Issues Tracker
- Markdown/StackEdit

2.2.3 Software Design
- ERDPlus
- Gantt Chart Excel Template
- Argo UML open-source tool
- Microsoft Visio
- Lucidchart

2.2.4 Coding and automated tests

- PyCharm with Jinja Templates and HTML snippets
- Flask
- JDBC
- IntelliJ IDEA
- Visual Studio Code
- Adobe Dreamweaver
- PhpStorm
- DataGrip
- phpMyAdmin
- MySQL
- Microsoft SQL Server Management Studio
- Apache NetBeans IDE

2.2.5 Configuration management

GitHub[1] will be used for software configuration management and tracking issues regarding 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.
PEP8[3] : Style Guide for Python Code
PSR-2[4] : Coding Style Guide
SQL-CG[5]: SQL Server Database Coding Standards and Guidelines
GJCG[6]: Google Java Coding Guide

3 Responsibilities

3.1 Activities and responsibilities

Activity	Responsibility	Comment
Project management	Kerem Güre	Responsible for the project flow and management such as the assignment of work to members and quality control.
Configuration tools management	Kerem Güre	Responsible for configuring Github Repos and creating documentation for members to reference when necessary.
Setting up the Development tools	Burak Deniz, Barış Özbaş	Responsible for installing all necessary frameworks, plugins, IDEs, etc.

[1] http://www.github.com
[2] http://www.uml.org/
[3] https://www.python.org/dev/peps/pep-0008/
[4] https://www.php-fig.org/psr/psr-2/
[5] https://www.sourceformat.com/pdf/sql-coding-standard-sqlserver.pdf
[6] https://google.github.io/styleguide/javaguide.html

Software specifications	Cenker Karaörs	Responsible for gathering the necessary information and creating detailed reports based on it.
Database design	Cenker Karaörs	Responsible for designing a relational DB that fulfills the given requirements also responsible for writing the queries will be used in later stages of production.
Frontend Design	Barış Özbaş, Emre Ay	Responsible for creating the necessary CSS and HTML templates for WebApp Design.
Service App Design	Denizcan Özpınar	Responsible for creating a Java App that is used for Internal Management of BPP.
Setting up the server side tools	Kerem Güre, Burak Deniz	Responsible for installing necessary plugins, applications to the remote server.

4 Risk Assessment

4.1 Risk Analysis

Risk	Probability	Effects
The time required to develop the software is underestimated.	High	Serious
Workstation system failure.	Low	Tolerable
Code generated by code generation tools is inefficient.	Moderate	Insignificant
Software tools may be incompatible with other tools.	Moderate	Tolerable
One of the team members may quit the project temporarily or permanently.	Low	Tolerable
Financial stability might not be sustained during the project schedule.	Low	Serious
Collaboration and motivation may not be provided by the management.	Moderate	Serious

4.2 Risk Planning

Risk	Potential Indicators	Actions
The time required to develop the software is underestimated.	Being behind schedule or late delivery.	Reorganizing the tasks, assigning other team members to the task left behind if it is necessary
Customer's requirements may change during development time.	Customers may compliant.	Adjusting the project according to new customer requirements
Workstation system failure.	Facing errors during development process.	Investigating errors and resolve them. Otherwise, change the workstation.
Code generated by code generation tools is inefficient.	Python by structure is slower than many other languages, thus, generated code from the compiler may be inefficient.	Try optimizing the algorithms used in the code.
Software tools may be incompatible with other tools.	Structural errors may occur.	Tools can be easily switched to compatible alternatives.
One of the team members may quit the project temporarily or permanently.	Poor relationship amongst the team members	Reorganizing the team to fulfill unassigned tasks.
Financial stability might not be sustained during the project schedule.	Poor staff morale or decrease in performances	To seek alternative funds such as bank loans.
Collaboration and motivation may not be provided by the management.	Poor staff morale or decrease in productivity	Organizing activities to increase motivation or reorganizing the team in a more effective way