Project Plan

Online Casino djigitBET

by Radoslav Radev

ICT & Software Engineering semester 3

9/10/2022

ver. 1.2

Document Versioning

Date	09/09/2022
Version	V1
State	Defined (Initial Draft)
Author	Radoslav Radev

Contents

1. **Introduction**

1.1 **General Information**

This is the Project Plan for the individual track in Semester 3.

The final product will include a React FrontEnd web application and Back end as a Service, rest API developed in Java using SpringBoot

 This Project will fulfill:

- *Building a Full Stack web application*
- *Showing professional skills and manners*

*More about **Learning Outcomes**:*
https://fhict.instructure.com/courses/12583/outcomes

The purpose of the third semester's individual track is for each student to select the project topic that best fits their interests and assure the Teacher that they have established a foundation for demonstrating the learning outcomes by continuously working on the project and receiving feedback (trough the Feed Pulse platform).

*More about **Feed Pulse**:*
https://fhict.instructure.com/courses/12583/pages/assessment?module_item_id=842100

Students are required to apply the newly learned material to the project on a sprint basis, the semester is divided into 6 sprints (each lasting three weeks).

1.2 **About the "Client"**

For this project, I will be both the developer and the client, since I will be putting my business idea into realization

2. **Project Statement**

2.1 **Stakeholders**

Formal Client:

Radoslav Radev - 491245@student.fontys.nl

Tutor (Individual track teacher):

Bart Rabeling – b.rabeling@fontys.nl

Developer:

Radoslav Radev – 491245@student.fontys.nl

2.2 **Problem Description**

The online casino and sportsbook business is booming, and the revenues that a well-run online gambling platform can generate are a tempting prospect for investors and entrepreneurs.

For this Project, a proof of concept online casino will be created. The main feature of which is a slot machine based on a player algorithm, minimizing the randomness factor close to 0, while still preserving the feel of randomness

3. **Project Objectives**

3.1 **Project Approach**

The entire project (paperwork and software) will be completed using Agile methodology.

The semester's nature allows for the approach to be divided into a number of sub-goals:
- *Back end of the Application (RestApi BaaS)*
- *Front end of the Application (web page)*
- *Paperwork*
- *Database integration*
- *Testing (back end, front end)*
- *Quality Assurance*
- *Performance tests*
- *Security measurements*

Agile methodology:
"a software development and project management method that is iterative and aids teams in delivering value to clients more quickly and with fewer road bumps"

3.2 **Project Goal**

The goal of this project is to develop a **Full-Stack web application,** diving into the world of algorithm based randomness

3.3 **Deliverables & Non-Deliverables**

Deliverables:

- *Full stack web application*
- *Project Plan*
- *Design Document (Technical Document)*
- *Test Plan/Test Report*
- *Final Presentation*

Non-Deliverables:

- *Hosting for the web application (into a docker compose enviorment)*

3.4 **Project Constrains**

Constraint	Description
Time Constraint	The deadline for the final versioning of the project is 13/01/2023 23:59
Technology	The technology stack: Java & Spring Boot, React, MySQL

3.5 Project Risks

Risk	Probability	Impact	Migration
Technical Difficulties	High	Medium	Research and analyze for a technical stack. Apply best practices and refer to the documentation.
Misunderstanding the requirements and deliverables	Medium	High	Document the requirements. Define clear deliverables.
Scope creep	Medium	Medium	Clear project schedule. Verify the scope with the stakeholders.
Poor time management	Low	Medium	Prioritize important tasks.

3.4 Quality Assurance

4. Feature Requirements Breakdown

4.1 Application Requirements

The program requirements are the requirements regarding the functions and workflow of the project.

The application SHOULD:

- *Allow users (customers) to create an account on the website/login to the website*
- *Allow users (customers) to add funds into their accounts*
- *Provide users (customers) with a virtual slot machine, on which they can place bets*
- *Allow the admin (Manager) to view(filter) and modify user data*
- *Allow admin (Manager) to view statistics*

4.2 Data Requirements

The data requirements specify what types of data is necessary for the application to make use of. The types are as follows:

User data:

- *userId, AccountType, username, password, name, surname, nationalIDNumber, email, phoneNumber, balance, winCoefficient*

Statistics data:

- —-

5. **Project Phasing**

5.1 **Work Division**

Sprints are the smaller iterations that make up the semester, as was already explained. Three weeks are spent on each sprint. New features will be added to the project after each sprint, and project deliverables will be shown to the stakeholders.

Sprint I (Initial phase):

Activities:
- *All around **research** and planning of the project*
- *Initial draft of the **Project Plan***
- *Initial draft of the **Technical Document***

- *Setup of the **Git Repository***
- *First setup of the **REST API***
- *Proposal for **Sprint II***

Deliverables:
- *Initial draft of the Project Plan/Technical Document*

Sprint II (Development phase):

Activities:
- *Updated **Project Plan***
- *Updated **Technical Document***
- *Initial draft of the **Test Plan/Test Report** document*
- *Initial draft of a **Technology Impact Cycle Report***
- ***C**ontinuous **RESTful API** development*
- *Initial front-end implementation (**React**)*
- ***Unit** testing as well as **backward compatibility** testing (test driven development)*
- *Bug fixes*
- *Updated backlog*
- *Proposal for **Sprint III***

Deliverables:
- *Updated versioning of the **Project Plan, Technical Document***

- *Initial draft of the **Test Plan/Test Report***
- *Application deliverable*

Sprint III (Development phase):

Activities:
- *Updating of the **Test Plan/Test Report** document*
- *Possible updating of the **Technical Document***
- *Final versioning of the **Project Plan***
- *Continuous **RESTful API** development*
- *Continuous front-end development (**React**)*
- ***Database** implementation (**ORM**)*
- ***Software Quality Measurements***
- ***Integration** testing*
- *Proposal for **Sprint IV***

Deliverables:
- *Updated versioning of the **Test Plan/Test Report, Technical Document***
- *Final versioning of the **Test Plan***
- ***Integration** tests*
- *Application deliverable*

Sprint IV (Development phase):

Activities:
- ***Authentication** and **authorization** (refactoring the front end and back end)*
- ***Application security measurements***
- *Proposal for **Spring V***

Deliverables:
- *Application deliverable with all documentation*
- *Updated Project Plan with security measurements (potentially a new paper about measurements?)*

Sprint V (Finalization Phase):

Activities:
- *End of application development (potential refactoring)*
- *Application deployment (**CI Pipeline**)*
- *Proposal for the final **Sprint VI***

Deliverables:
- *Application deliverable with all documentation*

Sprint VI (Finalization Phase):

Activities:
- *Additional application deployment using **docker***
- *Potential bug fixes*

Deliverables:
- *Final application and documentation versioning*

6. Summary

6.1 **References**

Research information gathered from:

- https://support.ptc.com/help/wnc/r11.2.0.0/en/index.html#page/Windchill_Help_Center/ProjMgmtPhaseState.html
- [Software Development Planning - Perfect Project Plan in 10 Steps (softkraft.co)](https://softkraft.co)
- https://study.com/learn/lesson/agile-environment-types-examples.html
- https://fhict.instructure.com/courses/12583/pages/how-to-pass-this-course?module_item_id=842098
- **Canvas** (Fontys ICT)

6.2 **Glossary**

Project Plan – "*A project plan, according to the Project Management Body of Knowledge is a formal, approved document used to guide both project execution and project control*"

Stakeholder – "*A person with interest or concern in something, especially business*"

Agile methodology – "*An iterative approach to project management and software development that helps teams deliver value to their customers faster and with fewer headaches*"

Full-Stack – "*In software development, it refers to both client-side and server-side parts of the application*"

Technical Document – "A document that contains architectural information of the application as well as information such as features or user stories"

Git – "Free open-source version control system used by developers for work management**"**

API – "*Application programming interface, way for two programs to communicate with each other***"**

REST API – "Representational state transfer, an application programing interface (**API**)"

JavaScript – *"Programing language mainly used for building front end web applications"*

React – *"JavaScript framework"*

Database – *"Organized collection of data stored and accessed electronically"*

ORM – *"Object relational mapper, used to make database connection easier"*

Integration testing – *"A phase in software testing in which individual software modules are combined and tested as a whole"*

Unit testing – *"A phase in software testing in which individual modules are tested separately"*