Development Process Specification

Author (User Id): Omar Ibrahim (ibo1)
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Contents

Chapter 1

Introduction

1.1 Purpose of this document

The purpose of this document is to provide a detailed description, with accompanying justification, of the deployed development process of this project.

1.2 Scope

This document covers a collection of topics relating to the development process. This document is solely based on the development process of the project, and therefore does not cover structure of the project in relation to in-depth coding practices.
Further this document does not provide a description of the project. For a description please refer to the Project Outline [1].

1.3 Objective

The objectives of this document are:

- To provide details of the chosen development process

Chapter 2

Definitions

2.1 Introduction

This chapter defines any necessary words used that may not be clear to a reader.

2.2 Type of Users

General User
A General User is not defined at the point of interaction and cannot be classified as any of the following user definitions.

User
A User is a user that is interacting with the product user interface and has access to the user functions of the product.

Developer
A Developer is a user that has access to backend information and backend software of the product.

Admin
An Admin is a user that has access to backend information through the user interface.

Chapter 3

Development Process

3.1 Introduction

This chapter describes the development process and initial definitions for that development process.

3.2 Development Process

3.2.1 Agile Development

An agile development process was chosen for this project based on following features:

- Possibility to delivering working software frequently [2].
- Possibility to adapt to changing requirements, even late in development [2].
- Using working software as the primary measure for progress. [2]

3.2.2 Agile Process

Scrum has been chosen as an agile development process. Scrum is popular and has no specified practices such as XP, which allows different approaches to testing [3].

3.2.3 Scrum

Scrum [4] is an incomplete framework that helps people, teams and organizations manage a project. It allows the usage of various processes, techniques and methods that can be employed within the framework. Scrum consists of the scrum team, scrum events and scrum artifacts.

3.2.3.1 Scrum Team

Scrum Team consists of a product owner, scrum master and a developers [4].

Product Owner
The product owner is responsible for developing and communicating the product goal, creating and communicating product backlog items, ordering these items and ensuring that the backlog is transparent, visible and understood [4].

Scrum Master
The scrum master is accountable for ensuring the scrum team and product owner are following the scrum methodology by ensuring every member understands the theory and practice of scrum [4].

Developers
Developers are are the people on the team that create work together to create the product [5].

3.2.3.2 Scrum Events

Scrum Events [4] are used to create regularity and to minimize meetings. These events are designed to enable the required transparency and the formal opportunity to inspect and adapt scrum artifacts. Scrum events consist of the sprint, sprint planning, daily scrum, sprint review and a sprint retrospective.

The Sprint
Scrum sprints [5] are short cycles of one month or less, which is used to get work done. The sprint contains all other scrum events and it starts at the conclusion of a previous sprint.

Sprint Planning
Sprint planning [5] is the event at the start of a sprint to plan out the work that will be done during the sprint

Daily Scrum
Daily Scrum [5] is an event held every day of the sprint to inspect progress towards the sprint goal that was defined in the sprint planning event.

Sprint Review
Sprint review [5] is an event at the end of the sprint where the team review accomplishments in the sprint, what environment changes were recorded and what to do next.

Sprint Retrospective
Sprint retrospective [5] is used to analyze the last sprint how it went and to identify the most helpful changes to improve effectiveness.

3.2.3.3 Scrum Artifacts

Scrum Artifacts [4] represent work and values of the product. Each artifact consists of a commitment and focus against which progress can be measured. The three types of scrum artifacts are:

- Product Backlog and its Product Goal
- Sprint Backlog and its Sprint Goal
- Increment and its Definition of Done

Product Backlog
The Product Backlog [4] is an emergent, ordered list of items what are needed to improve the product. Items which are deemed Done can be selected for one sprint. The commitment for the Product Backlog is the Product Goal which describes a future state of the product. It is the objective for the scrum team.

Sprint Backlog
The Sprint Backlog [5] is an evolving visible list of work that the Developer's plan for the Sprint. The commitment for the Sprint Backlog is the Sprint Goal [4] which is the single objective for the Sprint.

Increment
The Increment [4] is small pieces of work that are concrete stepping stones towards the Product Goal. Each Increment is supplement to all prior Increments and thoroughly verified. This ensures that all Increments work together. The commitment for the increment is the Definition of Done [4] which is a description of the state of the Increment when it meets the quality measures required. If a Product Backlog item meets the Definition of Done, an Increment is born.

Chapter 4

My Implementation

4.1 Introduction

This chapter describes my implementation of the previous mentioned Scrum process.

4.1.1 Scrum Team

The Scrum Team will consist only of Omar Ibrahim(ibo1) and of Maxim Buzdalov(mab168) as an advisor.

Product Owner
The Product Owner does not exist in this project. Thus the responsibility of this role will fall onto Omar Ibrahim. Maxim Buzdalov will be undertaking an advisory role and advising on decision.

Scrum Master
No Scrum Master will be deligated. This role is futile and thus will not be deployed.

Developers
Developers will consist of Omar Ibrahim. Maxim Buzdalov will be undertaking an advisory role for implementaion.

4.1.2 Scrum Events

This subsection describes the implementation of the Scrum Events.

The Sprint
A Sprint will consist of one or two weeks. Starting on a Monday in that week and ending on the following Monday.

Sprint Planning
Sprint Planning will occur every Monday. The start of the planning will begin in the meeting between Omar Ibrahim and Maxim Buzdalov where initial planning ideas will emerge. After that meeting more in-depth planning will occur and the Sprint Backlog will be defined for that Sprint. Initial Definition of Done will be created within the Sprint Planning. Possible test cases will be defined within the Sprint Planning.

Daily Scrum
A Daily Scrum will be held at the end of each working day to get an overview of the progress of the Sprint.

Sprint Review
A Sprint Review will be held on a Sunday. This Sprint Review will be held at the start of the Monday meeting between Omar Ibrahim and Maxim Buzdalov.

Sprint Retrospective
A Sprint Restrospective will be held in the meeting between Omar Ibrahim and Maxim Buzdalov after the Sprint Review. This might not occur after every Sprint.

4.1.3 Scrum Artifacts

The Scrum Artifacts will be represented within software and tools.

Product Backlog
The Product Backlog log will be represented as a list of User Stories inside the Github Issues with a label User Story. A User Story [6] is a general explanation of a software feature from the perspective of the end user. It is a way to define the value of a feature to the customer. A User Story will consist of As a ... wants to ..., so that .... Further it will consist of an estimation of time and a Definition of Done. The estimation of time is a how much time it will take for a story to be implemented. Definition of Done describes when the user can complete that task.

Sprint Backlog
Each Sprint Backlog will be represented as a Kanban board within a Github Project. Kaban board is a visualization tool fork work [7]. The Kanban board will consist of User Stories and Tasks or Spikes. A Task is a software coding task that needs to be done. To be able to specify wether a task has been done, Unit Testing will be used. A Spike is research that needs to be done. The Kanban board will consist of following columns:

- *Sprint Backlog* – where the user stories for this sprint will be held.
- *To Do(Tasks or Spikes)* – where each task or spike for that user story will be held that still needs to be done.
- *In Process(Tasks or Spikes)* – where each task or spike that is being processed will be held.
- *Awaiting Review(Tasks or Spikes)* – where each task or spike that is waiting for Review.

- *Done(Tasks or Spikes)* – where each task or spike is done and needs to be closed.

Increment
The Increment will be the project software that will be held under the SRC folder within the Github Repository.

References

[1] O. Ibrahim, “MP.IBO1.00 Project Outline,” https://github.com/TheRealShoxie/Interactive-Robot-Chess/blob/main/DOCS/Project_Outline/MP.IBO1.00_-_Project_Outline.pdf, Feb. 2023, accessed February 2023.

[2] A. Manifesto, “Principles behind the Agile Manifesto,” https://agilemanifesto.org/principles.html, 2001, accessed February 2023.

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[4] K. Schwaber and J. Sutherland, “The 2020 Scrum Guide,” https://scrumguides.org/scrum-guide.html, 2020, accessed February 2023.

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[7] ——, “What is a kanban board?” https://www.atlassian.com/agile/kanban/boards, accessed February 2023.