Fall 2022 CEG-6110-10

Introduction to Software Engineering Software Development Plan (Agile)

# Project Title

* Audible Image Captioning

# Project Synopsis:

# Audible image captioning is a web app which will provide a suitable caption for a suitable caption for an image that is fed into the system as an input and using the caption it will generate an audible output.

# Concept of Operations (CONOPS):

* Audio image captioning is an application interface which will process the input image and convert it into audible text.
* We will be developing a UI webpage that consists of a button for capturing /Uploading the image.
* The user details like booking id, name, phone number, email address, check in and out date and time are stored in database.
* The programming language we use for developing the code is Python, HTML, CSS and Flask framework.
* We do J-unit Testing for testing the user stories.
* We also want to develop the tool based on the feedback provided by the user in the future.
* As the primary user interface for managing the website, the generated code will execute in a terminal window on a local host server.
* The user website will provide inputs to the website, which will then store the data in a database.

# Development Methodology:

* Agile.

# Requirements:

* Requirements will be traced through the code using Doxygen. The documents will be maintained in the GITHUB under following directory path.
* [https://github.com/WSU-DGscheidle/ceg-4110\_group\_project-](https://github.com/WSU-DGscheidle/ceg-4110_group_project-team_10/tree/main/Code%20Docs) [team\_10/tree/main/Code%20Docs](https://github.com/WSU-DGscheidle/ceg-4110_group_project-team_10/tree/main/Code%20Docs)
* An excel Spreadsheet will be used to document both the product and sprint backlog. The documents will be maintained in the GITHUB under following directory path.
* [https://github.com/WSU-DGscheidle/ceg-4110\_group\_project-](https://github.com/WSU-DGscheidle/ceg-4110_group_project-team_10/tree/main/Product%20and%20Sprint%20Backlogs) [team\_10/tree/main/Product%20and%20Sprint%20Backlogs](https://github.com/WSU-DGscheidle/ceg-4110_group_project-team_10/tree/main/Product%20and%20Sprint%20Backlogs)

# Design:

* A minimal design document will be developed to document key design decisions. The design document is available at the following GITHUB location.
* [https://github.com/WSU-DGscheidle/ceg-4110\_group\_project-](https://github.com/WSU-DGscheidle/ceg-4110_group_project-team_10/blob/main/Working%20Model%20Overview.pdf) [team\_10/blob/main/Working%20Model%20Overview.pdf](https://github.com/WSU-DGscheidle/ceg-4110_group_project-team_10/blob/main/Working%20Model%20Overview.pdf)

# Coverage:

* A combination of automated code coverage tool and code coverage analysis will be used to document the test coverage of the code. Only newly developed code will be subjected to testing.

# Commits and Pull Requests:

* Team members will each provide commits and pull requests. The commits and Pull requests will be contained in GitHub.

# Minutes:

* Meeting minutes will be placed in GitHub in the directory: [https://github.com/WSU-DGscheidle/ceg-4110\_group\_project-](https://github.com/WSU-DGscheidle/ceg-4110_group_project-team_10/tree/main/meetingminutes) [team\_10/tree/main/meetingminutes](https://github.com/WSU-DGscheidle/ceg-4110_group_project-team_10/tree/main/meetingminutes)

# Actions:

* Actions will be maintained in the GitHub.

# Identify Roles:

* Product Owner – Mahendranath
* Team – Sai Kumar, Rajesh, Manohar, Vishnu
* Scrum Master – Vidya

# Schedule:

* Project Start Date: 02/07/2023
* Sprint Duration: 15days starting from 02/07/2023
* Project End Date: 12/5/2022.
* Sprint Starts: 1. 02/07/2023 2. 02/22/2023 3. 03/16/2023 4. 03/31/2023 5. 04/17/2023

# Software Development Environment:

* Hardware: Dell.
* Operating System: Windows.
* Compiler/Linker Tools: Python, Visual Studio Code.
* Doxygen
* GitHub

# Configuration Management:

* GitHub
* Items will be configured as follows:
  1. Documents, upon initial development
  2. Software, upon initial development and passing
  3. The software pulls will only occur when agreed upon by the team.

# Target Environment:

* Hardware: Apple MacBook, Dell
* Operating System: OSX, windows
* A goal is to develop the software in a manner that will it be easily targeted to other target environments such as Linux, and Windows.

# Identify the Product Backlog:

* The following identifies the initial backlog.
* Updates to the backlog will be maintained as part of the print reviews
* The Product Backlog uses the designation of HL to identify the High- Level product backlog.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | Verificati  -on |  |  |  |
| Rqt # | Requirement | T | D | A | I |
|  | Home Page |  |  |  |  |
| HL- 110 | Navigation bar consists of home,bookings, about and contact. | T | D |  |  |
| HL- 120 | Search engine for getting hotel information for given location. | T | D |  |  |
| HL- 130 | Book now button used to load a new booking page. | T | D |  |  |
| HL- 140 | In booking page user enters the required details and gets a booking ID. |  |  |  |  |
|  | Booking Page |  |  |  |  |
| HL- 210 | It has three options like view booking, update booking and cancel booking. | T | D |  |  |
| HL- 220 | In view booking, user can view his booking details. | T | D |  |  |
| HL- 230 | In update booking, user can update his booking details by giving the booking Id. | T | D |  |  |
| HL- 240 | In cancel booking, user can cancel his booking at the hotel. | T | D |  |  |
|  | About Page |  |  |  |  |
| HL- | This page has information, which is generally used for reference while booking, update and |  | D |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 310 | cancelling. |  |  |  |  |
|  | ContactUs Page |  |  |  |  |
| HL- 410 | Page contains toll-free number and email address for any information. |  | D |  |  |
|  |  |  |  |  |  |
|  | T - Test |  |  |  |  |
|  | D - Demonstrate |  |  |  |  |
|  | A - Analysis |  |  |  |  |
|  | I - Inspection |  |  |  |  |

# Identify Initial Sprint Backlog:

The following identifies the initial estimate of items to be worked in each sprint.

# Sprint 1 – 02/07/2022

* Setup development environments like Python and visual studio.
* Setup GitHub for Version Control.
* Develop basic functionality.
* Identify the working model overview for the website.
* Check-in items that are complete to git.

# Sprint 2 – 10/5/2022

* Encoding and Decoding the Data set images for the project and testing it.
* Setting up the database to store the images.

# Sprint 3 – 10/20/2022

* Developing the Home page for Capturing/Uploading the image.
* Developing the Download image button Functionality.
* Developing the Output page which will display the input image with generated caption and audio.

# Sprint 4 – 11/5/2022

* Developing to Process the input Image.
* Extracting the text Generation of the Scene of the input image.
* Extracting the Audio for the text Generated input image.

# Sprint 5 – 12/5/2022

* Writing testcases for each module.
* Checking code coverage and doxygen file.
* Cleanup and demonstration.

# Sprint Execution:

* The sprint review and sprint planning meetings will follow the format listed below. Due of the team's short development timetable and the combination of the sprint review, retro, and sprint planning meetings.

# Sprint Planning:

Inputs:

* Product Backlog
* Sprint backlog
* Any required technical Information (interface definitions, etc.)

Team Activity:

* Product Owner – Updates product backlog to contain updated requirements.
* Scrum Master – Works with the team and product owner to definethe new sprint backlog.
* Development Team – Provides feedback on task efforts and sprintbacklog.
* All members define what “Done” is. Outputs:
* Refined product backlog
* Updated sprint backlog

# Daily Scrum:

Inputs:

* Sprint Backlog. Team Activity:
* Scrum master – polls the team as to the status
* Development Team – provides status on progress and other needs Outputs:
* Updated sprint backlog
* Meeting minutes (Date, Time, Attendees, at a minimum)

# Sprint Review:

Inputs:

* Sprint Backlog. Team Activity:
* Sprint Review
* Stake Holders updated with latest status. Output:
* Delivered new software capability (Increment)