PLANNING PHASE
Sprint Delivery Plan

Project Planning Template (Product Backlog, Sprint Planning, Stories, Story points)

Date	7 NOVEMBER2022
Team ID	PNT2022TMID42634
Project Name	A Novel Method for Handwritten Digit Recognition System
Maximum Marks	8 Marks

Acceptance Testing:

Unit Testing:

Unit testing verification efforts on the smallest unit of software design, module. This is known as "Module Testing". The modules are tested separately. This testing is carried out during programming stage itself. In these testing steps, each module is found to be working satisfactorily as regard to the expected output from the module.

Integration Testing:

Integration testing is a systematic technique for constructing tests to uncover error associated within the interface. In the project, all the modules are combined and then the entire programmer is tested as a whole. In the integration-testing step, all the error uncovered is corrected for the next testing steps.

Validation Testing:

To uncover functional errors, that is, to check whether functional characteristics confirm to specification or not specified.

System Testing:

Once individual module testing completed, modules are assembled to perform as a system. Then the top down testing, which begins from upper level to lower level module testing, has to be done to check whether the entire system is performing satisfactorily.

Performance Testing:

Handwritten digit recognition is one of the important problems in computer vision these days. There is a great interest in this field because of many potential applications, most importantly where a large number of documents must be dealt such as post mail sorting, bank cheque analysis, handwritten form processing etc. So a system should be designed in such a way that it is capable of reading handwritten digits and providing appropriate results. We propose a solution on neural network approaches to recognize handwritten digits.

Classification: Convolutional neural network that is very popular for computer vision tasks like image classification, object detection, image segmentation and a lot more. Image classification is one of the most needed techniques in today's era, it is used in various domains like healthcare, business, and a lot more.

Tensor flow: TensorFlow is an open-source machine learning library for research and production. TensorFlow offers APIs for beginners and experts to develop for desktop, mobile, web, and cloud. See the sections below to get started. By scanning the numerical digit and converting it into png format using the python3 command in the terminal we can get text output and sound output.

Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Data Collection	USN-1	As a user, I can collect the dataset from various resources with different handwritings.	10	Low	SURYA NARAYANA P
Sprint-1	Data Preprocessing	USN-2	As a user, I can load the dataset, handling the missing data, scaling and split data into train and test.	10	Medium	SRIRAM S
Sprint-2	Model Building	USN-3	As a user, I will get an application with ML model which provides high accuracy of recognized handwritten digit.	5	High	SANDHIYA A
Sprint-2	Add CNN layers	USN-4	Creating the model and adding the input, hidden, and output layers to it.	5	High	SRIRAM S

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-2	Compiling the model	USN-5	With both the training data defined and model defined, it's time to configure the learning process.	2	Medium	SURYA NARAYANAN P
Sprint-2	Train & test the model	USN-6	As a user, let us train our model with our image dataset.	6	Medium	SANDHIYA A SRIRAM S
Sprint-2	Save the model	USN-7	As a user, the model is saved & integrated with an android application or web application in order to predict something.	2	Low	RENUGA DEVI K
Sprint-3	Building UI Application	USN-8	As a user, I will upload the handwritten digit image to the application by clicking a upload button.	5	High	SANDHIYA A SURYA NARAYANAP
Sprint-3		USN-9	As a user, I can know the details of the fundamental usage of the application.	5	Low	SURYA NARAYANAN P
Sprint-3		USN-10	As a user, I can see the predicted / recognized digits in the application.	5	Medium	SURYA NARAYANAN P
Sprint-4	Train the model on IBM	USN-11	As a user, I train the model on IBM and integrate flask/Django with scoring end point.	10	High	SRIRAM S
Sprint-4	Cloud Deployment	USN-12	As a user, I can access the web application and make the use of the product from anywhere.	10	High	SURYA NARAYANAN P

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	6 Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	20	05 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	12 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	20	19 Nov 2022

Velocity:

Imagine we have a 6-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

Average Velocity = 20 / 6 = 3.33

Burndown Chart:

A burn down chart is a graphical representation of work left to do versus time. It is often used in agile software development methodologies such as Scrum. However, burn down charts can be applied to any project containing measurable progress over time.