Project Planning Phase

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

Date	7th November 2023
Team ID	PNT2022TMID- 591758
Project Name	Horology 2.0: Forecasting the Future of Smartwatch Prices
Maximum Marks	8 Marks

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

Use the below template to create product backlog and sprint schedule

Sprint	User Type	Functional Requirement(Epic)	User Story Number	User Story / Task	Acceptance criteria	Story Points	Priority	Team Members
Sprint 1	Smartwatch manufactures and Retailers	Project Setup & Infrastructure	USD-1	As a smartwatch manufactures, I like to set up the development environment with the required tools and frameworks to start the smartwatch price prediction project.	Successfully configured with all necessary tools and frameworks.	1	Medium	Indhu & Varshini
Sprint 1	Developers	Development Environment	USD-2	As a developer, I like to have use new technologies and develop an application that can help for most of the people.	The development environment should be successfully configured with all necessary tools and frameworks, such as a Python interpreter, machine learning libraries, and data visualization tools.	1	Medium	Divya& Pallavi
Sprint 2	Researches	Data Collection	USD-3	As a researcher, I like to gather a diverse dataset of smartwatch prices and features from various sources (e.g., online retailers, manufacturer websites, etc.) for training the machine learning model.	The dataset should be diverse and representative of the smartwatch market, with a wide range of prices and features. It should also be cleaned and preprocessed to ensure that it is suitable for machine learning	1	High	Indhu Varshini Pallavi Divya
Sprint 2	Data Scientists	Data Preprocessing	USD-4	As a data scientist, I like to preprocess the collected dataset by cleaning and normalizing the data, and splitting it into training and validation sets.	The dataset should be cleaned and normalized to ensure that it is consistent and easy for the machine learning model to understand. It should also be split into training and validation sets so that the model's performance can be evaluated.	5	High	Indhu

Sprint 2	Machine learning Engineers	Model development	USD-5	As a Machine Learning Engineer, I like to explore and evaluate different machine learning algorithms (e.g., linear regression, decision trees, random forests, etc.) to select the most suitable model for smartwatch price prediction.	A variety of machine learning algorithms should be explored and evaluated to select the one that performs best on the smartwatch price prediction task. This may involve tuning the hyperparameters of each algorithm to optimize its performance.	2	Medium	Varshini
Sprint 3	Tech Enthusiasts	Training	USD-6	As a Tech Enthusiasts, I like to train the selected machine learning model using the preprocessed dataset and monitor its performance on the validation set. As a tech enthusiast, I want to be able to learn about the different features of smartwatches and how they affect their price, so that I can make an informed decision about which smartwatch to buy.	The selected machine learning model should be trained on the preprocessed dataset. The model's performance should be monitored on the validation set to ensure that it is generalizing well and is not overfitting to the training data.	3	High	Divya
Sprint 3	Outdoor Adventurers	Model deployment & Integration	USD-7	As an Outdoor Adventurers, I like to deploy the trained machine learning model as an API or web service to make it accessible for smartwatch price prediction. As an outdoor adventurer, I want to be able to see reviews of smartwatches before I buy one, so that I can get an idea of what other people think of the smartwatch and its features, especially features that are important to outdoor adventurers.	The trained machine learning model should be deployed as an API or web service so that it can be used by others to predict smartwatch prices. This may involve using a cloud computing platform, such as Google Cloud Platform or Amazon Web Services.	3	Medium	Pallavi
Sprint 4	Students	Testing & quality assurance	USD-8	As a student I like to develop, a user-friendly interface to allow users to interact with the machine learning model and get smartwatch price predictions. As a student, I want to be able to use a smartwatch price prediction model to estimate the price	The trained machine learning model should be deployed as an API or web service so that it can be used by others to predict smartwatch prices. This may involve using a cloud computing platform, such as Google Cloud Platform or Amazon Web Services.	2	Medium	Pallavi & Divya

				of a smartwatch before I buy it, so that I can make an informed decision			
Sprint 4	Business Professionals	User input and prediction	USD-9	As a Business professionals, I like to give the Specific features as input and predict the cost of the smart watch. As a business professional, I want to be able to receive notifications when the smartwatch price prediction model is updated with new data or feedback.	A user-friendly interface should be developed to allow users to interact with the machine learning model and get smartwatch price predictions. This interface may be a web application.	2	High	Indhu & Varshini

Project Tracker, Velocity & Burndown Chart: (4 Marks)

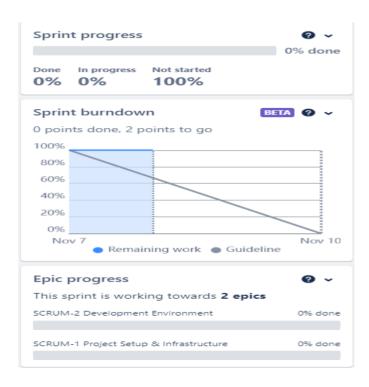| Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	2	3 Days	7th Nov 2023	10th Nov 2023	2	
Sprint-2	8	4 Days	11th Nov 2023	14th Nov 2023		
Sprint-3	6	4 Days	15th Nov 2023	18th Nov 2023		
Sprint-4	4	2 Days	19th Nov 2023	20th Nov 2023		

Velocity:

Imagine we have a 14-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)

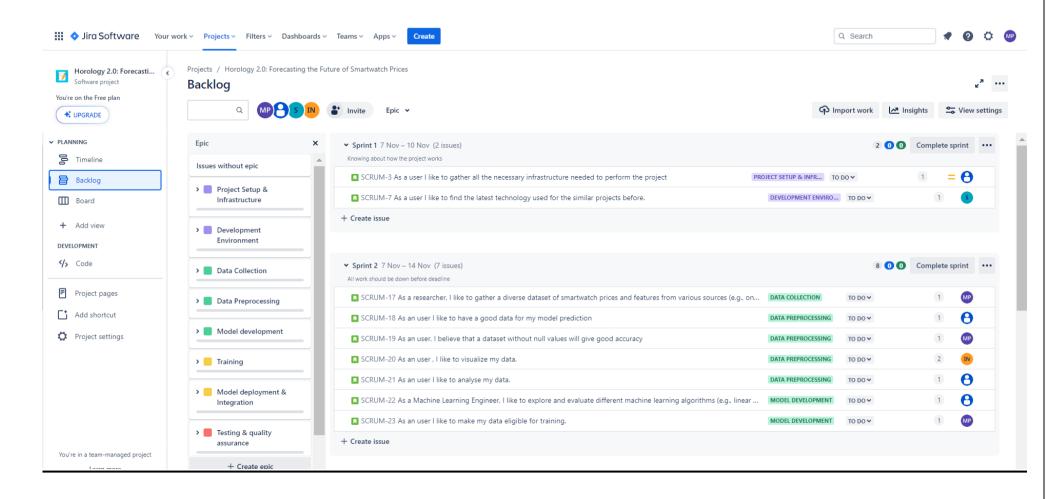$$AV = \frac{sprint\ duration}{velocity}$$

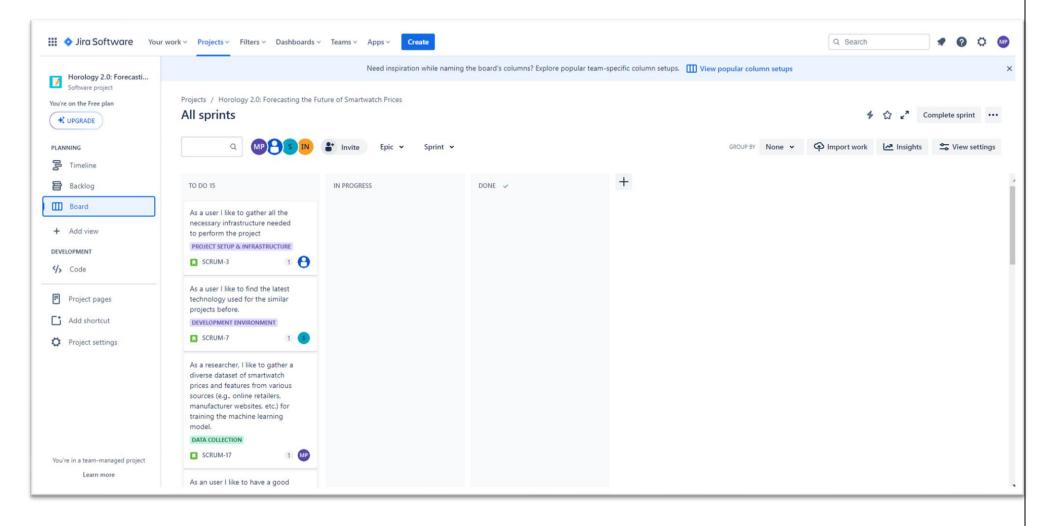AV= sprint duration/ Velocity = 20/14 = 1.43

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.

Backlog Chart:

Board chart:

Time line chart:

	NOV				NOV							NOV							
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Sprints									Sprint 1, Sprint 2, Sprint 3, Sprint 4									
SCRUM-1 Project Setup & Infrastructure																			
SCRUM-2 Development Environment																			
SCRUM-9 Data Collection																			
SCRUM-10 Data Preprocessing																			
SCRUM-11 Model development																			
SCRUM-12 Training																			
SCRUM-13 Model deployment & Integration																			
SCRUM-14 Testing & quality assurance																			
SCRUM-15 User input and prediction																			