

## Project Planning Phase

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

Date	27 October 2023
Team ID	Team-593136
Project Name	Car purchase prediction using machine learning
Maximum Marks	20 Marks

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

Use the template below to create a product backlog and sprint schedule

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Story Points	Priority	Team Members
Sprint-1	Data collection epic	USN-1	As a data scientist, I want to collect diverse data to train the model effectively	Data collected from at least 1000 individuals.   - Data includes age,gender, annual income, and car purchase information	1	High	Gokul Prasad
Sprint-1	Data processing epic	USN-2	As a data engineer, I want to preprocess the raw data for better model performance	Missing values handled appropriately.  - Categorical variables (like gender)encoded numerically.   - Numerical feature scaling applied	2	High	Mithun
Sprint-2	Data splitting epic	USN-3	As a machine learning developer, I want to split the data into training and testing sets.	Data split into 80% training and20% testing sets.	2	Medium	Threvikram
Sprint-2	Model development epic	USN-4	As a machine learning developer, I want to choose and train a suitable classification algorithm	Select a classification algorithm (e.g.,Logistic Regression, Decision Trees).  - Train the model on the training set.	1	High	Nevatha
Sprint-3	Model Evaluation epic	USN-5	As a machine learning developer, I want to evaluate the model's performance	- Calculate accuracy, precision, recall, andF1 score.   - Ensure model meets predefined performance thresholds	1	Low	Mithun
Sprint-2	Deployment epic	USN-6	As a DevOps engineer, I want to deploy the trained model for predictions on new data..	- Model deployed to a production environment.   - Able to make predictions on new data.	3	High	Gokul prasad
Sprint-4	Feedback loop epic	USN-7	As a business analyst, I want a feedback loop to continuously improve the model.	- Collect feedback on model predictions.   - Implement updates based on feedback	2	medium	Threvikram

**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	3	2 Days	28 Oct 2023	30 Oct 2023		
Sprint-2	5	5 Days	1 Nov 2023	6 Nov 2023		
Sprint-3	10	2 Days	7 Nov 2023	8 Nov 2023		
Sprint-4	1	2 Day	9 Nov 2023	10 Nov 2023		

**Velocity:**

Imagine we have a 29-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)

$$AV = \frac{\text{sprint duration}}{\text{velocity}} = \frac{20}{10} = 2$$

## **Burndown Chart:**

A burndown 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.

<https://www.visual-paradigm.com/scrum/scrum-burndown-chart/>

<https://www.atlassian.com/agile/tutorials/burndown-charts>

## **Reference:**

<https://www.atlassian.com/agile/project-management>

<https://www.atlassian.com/agile/tutorials/how-to-do-scrum-with-jira-software>

<https://www.atlassian.com/agile/tutorials/epics>

<https://www.atlassian.com/agile/tutorials/sprints>

<https://www.atlassian.com/agile/project-management/estimation>

<https://www.atlassian.com/agile/tutorials/burndown-charts>

## Burndown Chart:

### Sprint 1:

#### Sprint burndown

BETA ? v

3 points done, 0 points to go

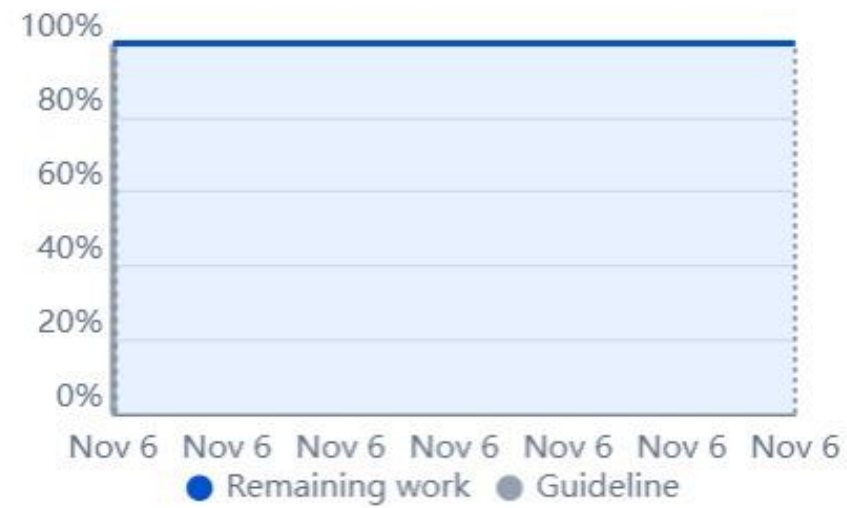


## Sprint 2:

### Sprint burndown

BETA ? ▾

0 points done, 3 points to go



### Sprint 3:

#### Sprint burndown

BETA



0 points done, 1 point to go



## Sprint 4:

### Sprint burndown

BETA ? ▾

0 points done, 2 points to go





## Board section:

We have completed sprint 1 and 2. So we can see the remaining tasks on board.

The screenshot displays the Jira Software interface for 'Team Vikram'. The top navigation bar includes 'Jira Software', 'Your work', 'Projects', 'Filters', 'Dashboards', 'Teams', 'Apps', and a 'Create' button. A search bar and user profile icons are on the right. A banner at the top of the board area suggests exploring popular team-specific column setups. The left sidebar shows the 'Team Vikram' project details, including a note about the Free plan and an 'UPGRADE' button. The main section is titled 'All sprints' and shows a Kanban board with three columns: 'TO DO 2', 'IN PROGRESS 1', and 'DONE 4'. Each column contains task cards with user avatars, counts, and labels. The 'TO DO' column has two cards: 'MODEL EVALUATION' (TV-14) and 'FEEDBACK LOOP' (TV-15). The 'IN PROGRESS' column has one card: 'DATA SPLITTING, MODEL DEVELOPMENT ...' (TV-13). The 'DONE' column has two cards: 'DATA COLLECTION AND DATA PROCESSING' (TV-4) and 'DATA COLLECTION AND DATA PROCESSING' (TV-5). The right sidebar contains a 'Complete sprint' button and a 'View settings' link.

Team Vikram  
Software project

You're on the Free plan

UPGRADE

PLANNING

- Timeline
- Backlog
- Board

+ Add view

DEVELOPMENT

- Code

Project pages

Add shortcut

Project settings

You're in a team managed project

Need inspiration while naming the board's columns? Explore popular team-specific column setups. [View popular column setups](#)

Projects / Team Vikram

### All sprints

Complete sprint

GROUP BY: None

Import work

Insights

View settings

TO DO 2

As a machine learning developer, I want to evaluate the model's performance

MODEL EVALUATION

TV-14 1

As a business analyst, I want a feedback loop to continuously improve the model.

FEEDBACK LOOP

TV-15 2

IN PROGRESS 1

As a DevOps engineer, I want to deploy the trained model for predictions on new data..

DATA SPLITTING, MODEL DEVELOPMENT ...

TV-13 3

DONE 4 ✓

As a data scientist, I want to collect diverse data to train the model effectively.

DATA COLLECTION AND DATA PROCESSING

TV-4 ✓ 1

As a data engineer, I want to preprocess the raw data for better model performance.




DATA COLLECTION AND DATA PROCESSING

TV-5 ✓ 2

Need inspiration while naming the board's columns? Explore popular team-specific column setups. [View popular column setups](#)

Projects / Team Vikram

## All sprints

  [Complete sprint](#) 

Epic ▾

Sprint ▾








GROUP BY 

None ▾

[Import work](#)

[Insights](#)

[View settings](#)

TO DO 2	IN PROGRESS 1	DONE 4 
		<div>As a machine learning developer, I want to split the data into training and testing sets. <a href="#">DATA SPLITTING, MODEL DEVELOPMENT ...</a> <div> TV-11  2 </div></div> <div>As a machine learning developer, I want to choose and train a suitable classification algorithm <a href="#">DATA SPLITTING, MODEL DEVELOPMENT ...</a> <div> TV-12  1 </div></div>

## Backlog section:

Jira Software

Your work

Projects

Filters

Dashboards

Teams

Apps

Create

Q Search

1

?

Team Vikram

Software project

You're on the Free plan

UPGRADE

PLANNING

Timeline

Backlog

Board

Add view

DEVELOPMENT

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Project settings

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Learn more

Projects / Team Vikram

Backlog

Epic

Import work

Insights

View settings

Epic

Issues without epic

Data collection and Data processing

Data splitting, Model development and Deployment

Model Evaluation

Feedback loop

Create epic

Sprint 1 28 Oct – 30 Oct (2 issues)

0 0 3 Complete sprint

Enable effective model training by collecting diverse data and optimizing model performance through data preprocessing.

TV-4 As a data scientist, I want to collect diverse data to train the model effecti...

DATA COLLEC...

DONE

1

TV-5 As a data engineer, I want to preprocess the raw data for better model per...

DATA COLLEC...

DONE

2

Create issue

Sprint 2 6 Nov – 6 Nov (3 issues)

0 3 3 Complete sprint

Prepare, develop, and deploy a machine learning model for classification, including data splitting, algorithm selection, and model deployment.

TV-11 As a machine learning developer, I want to split the data into training an...

DATA SPLITTI...

DONE

2

TV-12 As a machine learning developer, I want to choose and train a suitable cl...

DATA SPLITTI...

DONE

1

TV-13 As a DevOps engineer, I want to deploy the trained model for prediction...

DATA SPLITTI...

IN PROGRESS

3

Create issue

 **Team Vikram**  
Software project

You're on the Free plan

 **UPGRADE**

#### PLANNING

 Timeline

 **Backlog**


 Board

+ Add view

#### DEVELOPMENT

 Code

 Project pages

 Add shortcut

 Project settings

You're in a team-managed project

[Learn more](#)

Projects / Team Vikram


## Backlog



Epic

 Import work

 Insights


 View settings

Epic



Issues without epic

>  Data collection and Data processing

>  Data splitting, Model development and Deployment

>  Model Evaluation

>  Feedback loop

+ Create epic

▼ **Sprint 3** 6 Nov – 8 Nov (1 issue)

1 0 0

Complete sprint



Assess and analyze the machine learning model's performance to measure its effectiveness and make necessary improvements.

 TV-14 As a machine learning developer, I want to evaluate the model's perform...

MODEL EVAL...

TO DO

1



+ Create issue

▼ **Sprint 4** 6 Nov – 10 Nov (1 issue)

2 0 0

Complete sprint



Establish a feedback loop for continuous model improvement, enabling the business analyst to provide insights and enhancements iteratively.

 TV-15 As a business analyst, I want a feedback loop to continuously improve th...

FEEDBACK LO...

TO DO

2



+ Create issue

▼ **Backlog** (0 issues)

0 0 0

Create sprint

Timeline:

Jira Software

Your work

Projects

Filters

Dashboards

Teams

Apps

Create

Search

Team Vikram

Software project

You're on the Free plan

UPGRADE

PLANNING

Timeline

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Add view

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Code

Project pages

Add shortcut

Project settings

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Learn more

Projects / Team Vikram

Timeline

Status category

Epic

View settings

Sprints

>

TV-3 Data collection and Data processing

>

TV-8 Data splitting, Model development...

>

TV-9 Model Evaluation

>

TV-10 Feedback loop

+ Create Epic

NOV

DEC

JAN '24

>

Today

Weeks

Months

Quarters

i