**Project Planning Phase**

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| Date | 21 October 2022 |
| Team ID | PNT2022TMID36291 |
| Project Name | SMART SOLUTIONS FOR RAILWAYS |
| Maximum Marks | 8 Marks |

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

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| **Sprint** | **Functional**  **Requirement (Epic)** | **User Story** **Number** | **User Story / Task** | **Story Points** | **Priority** | **Team**  **Members** |
| Sprint-1 |  | USN-1 | Create the IBM Cloud services which are being used in this project. | 6 | High | K Vivek Narayana Reddy,  K Midhun Surya Kalyan,  B V M Raghava Reddy,  Nellore Sumanth,  Kavati Sumanth |
| Sprint-1 |  | USN-2 | Configure the IBM Cloud services which are being used in completing this project. | 4 | Medium | K Vivek Narayana Reddy,  K Midhun Surya Kalyan,  B V M Raghava Reddy,  Nellore Sumanth,  Kavati Sumanth |
| Sprint-1 |  | USN-3 | IBM Watson IoT platform acts as the mediator to connect the web application to IoT devices, so create the IBM Watson IoT platform. | 5 | Medium | K Vivek Narayana Reddy,  K Midhun Surya Kalyan,  B V M Raghava Reddy,  Nellore Sumanth,  Kavati Sumanth |

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| Sprint-1 |  | USN-4 | In order to connect the IoT device to the IBM cloud, create a device in the IBM Watson IoT platform and get the device credentials. | 5 | High | K Vivek Narayana Reddy,  K Midhun Surya Kalyan,  B V M Raghava Reddy,  Nellore Sumanth,  Kavati Sumanth |
| Sprint-2 |  | USN-1 | Configure the connection security and create API keys that are used in the Node-RED service for accessing the IBM IoT Platform. | 10 | High | K Vivek Narayana Reddy,  K Midhun Surya Kalyan,  B V M Raghava Reddy,  Nellore Sumanth,  Kavati Sumanth |
| Sprint-2 |  | USN-2 | Create a Node-RED service. | 10 | High | K Vivek Narayana Reddy,  K Midhun Surya Kalyan,  B V M Raghava Reddy,  Nellore Sumanth,  Kavati Sumanth |
| Sprint-3 |  | USN-1 | Develop a python script for publishing the location (latitude and longitude) data to the IBM IoT Platform and the other python code to read the QR Code and fetch the data from Cloudant DB. | 20 | High | K Vivek Narayana Reddy,  K Midhun Surya Kalyan,  B V M Raghava Reddy,  Nellore Sumanth,  Kavati Sumanth |
| **Sprint** | **Functional**  **Requirement (Epic)** | **User Story** **Number** | **User Story / Task** | **Story Points** | **Priority** | **Team**  **Members** |
| Sprint-4 |  | USN-1 | Develop the web application using Node-RED | 10 | Medium | K Vivek Narayana Reddy,  K Midhun Surya Kalyan,  B V M Raghava Reddy,  Nellore Sumanth,  Kavati Sumanth |
| Sprint-4 |  | USN-2 | Testing the Web UI by giving the required inputs | 10 | High | K Vivek Narayana Reddy,  K Midhun Surya Kalyan,  B V M Raghava Reddy,  Nellore Sumanth,  Kavati Sumanth |

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| **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 |

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

**Velocity:**

Imagine we have a 10-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)

