

Project Design Phase-I

Date	16 October 2022
Team ID	PNT2022TMID21839
Project Name	Project - Smart Solutions For Railways
Maximum Marks	2 Marks

Proposed Solution

S.No	Parameter	Description
1	Problem Statement (Problem to be solved)	<ul style="list-style-type: none">• To design a webpage where public can view and book tickets and to enable paperless ticket verification.• To track the live location of all the trains• To increase smart facilities in railways to ensure passenger safety and comfort
2	Idea / Solution description	<ul style="list-style-type: none">• A QR code is generated whenever a person books a ticket with all the information required to verify the ticket. An entry booth can be designed to verify the QR based ticket and allow the passenger inside the station.• The live location of the train is captured and updated to all the passengers immediately through the application which is used to understand the delay in the train timings. Also based on the location, a wakeup call is provided to the passenger while nearing his destination and to automatically open and close the crossing barricades in the path.• Based on tracking the live location of the train, the application can be collaborated with food shops. So that passengers can order for food through the app and the shop can deliver them to the nearest railway station.• To enable environmental light based switching ON and OFF of the lights to enable reduced power usage, to continuously monitor the health of loco pilot and alert the authorities in times of emergency, to install automated door systems in passenger trains and to adaptively change the temperature of air conditioners in AC coaches.

3	Novelty / Uniqueness	<ul style="list-style-type: none"> • User friendly interface (Web Page) to book the ticket. • Unique QR code for each user to verify their tickets.
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		<ul style="list-style-type: none"> • Collaboration with other industry will boost the profit. • GPS Module to track the location of Train and live status is updated in the Web app with wakeup calls. • Automated waiting list clearance
4	Social Impact / Customer Satisfaction	<ul style="list-style-type: none"> • The passengers would be protected from unwanted or ticketless people entering into the railway station. • Prevention of accidents that happens because of the emergency conditions of loco pilot and also due to careless railroad crossings. • Passengers would have reduced waiting times. • Passengers can be benefited by getting many services from the same application. • Optimized electricity usage.
5	Business Model (Revenue Model)	<ul style="list-style-type: none"> • Service charge is collected for each ticket booking. • Special/extra charges are collected for demand-based ticket booking. For instance, tatkal booking, during festival periods, etc. • Collaboration with other industries, like food shops, etc will boost the profit. • The SDK developed will be published following the successful launching of app, and charges will be collected for using the dependencies and SDK.

6	Scalability of the Solution	<ul style="list-style-type: none"> • We propose a solution which works on the SaaS (Software as a Service) cloud model wherein all necessities are deployed in the web browser which gives an easy access and also the cost is minimal which gives a scaled solution approach. • As of now the application, there is a collaboration idea with food shops, further it can be collaborated with other industries too. • Monitoring of passengers using AI and deep learning can be implemented which would increase the safety of the passengers.
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