Team id : PNT2022TMID20098

# IDEATION

## TOP THREE IDEAS

**TOP 1st - TOPIC NAME**: Only train booked passengers have access to the automatic door.

**DESCRIPTION**: People without tickets are currently a common sight in many trains, which is why we have come up with the novel idea that those who purchase tickets will be given a QR CODE, which they must open and present to a scanner outside in order for the door to open if the ticket is legitimate.

**TOP 2nd - TOPIC NAME**: Automatic Fare Collection using Smart Ticketing

**DESCRIPTION :** The use of sensor beacons, edge computing, AI, and cloud-based technology allows operators to do away with long queues at the ticket booths. The technology is created to recognise a specific smartphone app as passengers enter the station or train and automatically charge the appropriate fare using sensors on station platforms or trains. In addition to streamlining the process for both passengers and operators, this can also make back-end revenue administration and billing easier while also gathering utilisation data for long-term planning.

**TOP 3rd - TOPIC NAME**: Aware as you approach your destination

**DESCRIPTION**: While en route to a destination, notifications can be sent to the passengers' mobile devices. An alert can be utilised in the event that the traveller misses the notification.

**KARTHIKEYAN S**

1. **TOPIC NAME**: Only train booked passengers have access to the automatic door.

   **DESCRIPTION**: People without tickets are currently a common sight in many trains, which is why we have come up with the novel idea that those who purchase tickets will be given a QR CODE, which they must open and present to a scanner outside in order for the door to open if the ticket is legitimate.
2. **TOPIC NAME**: An android application for the passengers to connect with the officials in particular stations in case of emergency.

   **DESCRIPTION**: In order to communicate with officials in an emergency, travellers must input their trip information. More importantly, they must enter the specific station they wish to inform so that they can reach EMS personnel.

3. **TOPIC NAME**: Using an android application the passengers can order the food to the railway.

   **DESCRIPTION**: Mainly for long journeys the passengers are struggling for food when they are hungry, they can raise a token so that the canteen/pantry people come to know and they deliver the food to the respective people.

4. **TOPIC NAME**: Elevated Passenger Experience
   **DESCRIPTION**: New passenger experiences can be created thanks to the Internet of Things. Customers have always anticipated connected applications, and technology has produced them. Systems for tracking train schedules, stops along the route, and unforeseen route adjustments in case of an emergency have been developed using the Internet of Things (IoT). Additionally, infotainment devices are employed to amuse passengers. With the help of these systems, travellers can avoid a tedious ride and stay alert with real-time news, weather updates, and video-on-demand services. The Wi-Fi-enabled cabin will also enable users to access social media sites, which will allow them have fun during lengthy journeys. Thus, by streaming entertainment to passengers and then showing adverts, train companies may make more money.

**MUTHU SRINIVASAN**

1. **TOPIC NAME**: Allocation of berth or seats for RAC bookings
   **DESCRIPTION**: Last minute bookings lead to a lot of confusions. So, an application which collects the database of passengers who have cancelled at the last minute or passengers who have not boarded the train at the specified stations and simplify the job of TTR.

2. **TOPIC NAME**: IOT application for smart compartments
   **DESCRIPTION**: In most of the cases especially in second class compartments the fans and lights don't work and in case of AC compartments the temperature is not adjusted properly. An application to control these appliances can be designed.

3. **TOPIC NAME**: Alert while nearing destination
   **DESCRIPTION**: Adding to Rakesh's second idea, notifications can be sent to the passengers mobile while they are about to reach their destination. In case the passenger doesn't see the notification, an alarm can be used (subject to few use cases)

4. **TOPIC NAME**: Brake systems using IoT
   **DESCRIPTION**: Use sensors and control the train speed like an embedded system

**NATRAJ**

1. **TOPIC NAME**: QR Scanner device for Ticket Collector
   **DESCRIPTION**: The device with scanner has access to database of our web application from that ticket collector can get details about passengers within few seconds. It makes ticket collector to check with passengers quick.

2. **TOPIC NAME**: Well distributed Database
   **DESCRIPTION**: Provided web application contains details of available unreserved seat that has been taken in station. This will help last minute traveller to plan which train they can prefer.

3. **TOPIC NAME**: Tracking train crossing.
   **DESCRIPTION**: From this passenger can check whether there is crossing of train in ongoing will happen or not. Some passengers those are new to travelling in train misunderstand the stopping of train with station form this they can have clear idea of what happening in their surroundings.

4. **TOPIC NAME**: Anti-theft alert for luggage bags
   **DESCRIPTION**: Nowadays, in many trains there are many theft cases so there will be a device that will be given in the counter after booking a ticket so if suddenly any theft case occurs then that particular compartment will be closed automatically after the issue finished then TC should open the compartment manually.

**PARVITHA**

1. **TOPIC NAME:** Automatic Fare Collection using Smart Ticketing
   **DESCRIPTION :** The use of sensor beacons, edge computing, AI, and cloud-based technology allows operators to do away with long queues at the ticket booths. The technology is created to recognise a specific smartphone app as passengers enter the station or train and automatically charge the appropriate fare using sensors on station platforms or trains. In addition to streamlining the process for both passengers and operators, this can also make back-end revenue administration and billing easier while also gathering utilisation data for long-term planning.

1. **TOPIC NAME**: Greater Reliability and safety using IoT
   **DESCRIPTION**: Keeping passengers and railway staff safe is the top priority for operators. Implementing safety sensors across all parts of a railway is one-way operators can provide a safer rail experience for everyone during their transportation journey. A train that suddenly breaks down on the track can ruin the day of its passengers, lead to delays across the network, and essentially throw the entire system off-gear. However, recent developments in preventive maintenance practices prompted by IoT have helped to revive the reliability of even the oldest assets. Safety sensors can be added to critical components of the train, such as breaks and wheels, to help alert operators of any issues. Computer vision solutions can help enable automated and safe platform and train screen door systems or help detect when passengers slip and fall.

2. **TOPIC NAME**: Combat Crowding
   **DESCRIPTION**: Over-crowding is not just unpleasant, it is also dangerous –particularly in tight spaces, bottlenecks, and during a pandemicIoT can be used to monitor passenger density through video analytics and the tactical use of sensors throughout the station. Combined with cameras, which will probably already be in use, crowding can be spotted live, and something can be done about it. For example, staff can usher busy commuters down the platform or open extra ticket gates.IoT, as with all technology, snowballs and gains momentum – the more it is used, the easier it becomes to use, and the greater the benefit. As passenger density is studied, additional data can be extracted from it, meaning patterns are recognised and human behaviour can be predicted and prepared for