BATCH: B6**-**6M2E

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SMART SOLUTION FOR RAILWAYS

LITERATURE SURVEY:

The future of the railway industry is expected to rely upon smart transportation systems that leverage technologies over a large rail network infrastructure to reduce its life-cycle cost. New services, such as integrated security, asset management, and predictive maintenance, are expected to improve timely decision-making for issues like safety, scheduling, and system capacity. Smart railways represent a combination of interconnected technological solutions and components, as well as modern transportation infrastructure like automatic ticketing systems, digital displays, and smart meters.

SURVEY ON RAILWAY SAFETY:

In the current railway systems, it is becoming more necessary to have safety elements in order to avoid accidents. The problem of landslides can also happen at entrances and exits of tunnels. In these critical areas, systems are usually located to detect the presence of obstacles, so they can inform about it to the control system. There are a lot of dedicated sensorial systems installed in the level crossing area to avoid collision between trains and automobiles, captured on the railway when the crossing gates have started down.

SURVEY ON TICKET BOOKING SYSTEM:

The railway ticketing system is implemented on AWS public cloud using services, such as AWS IoT, Lambda and Dynamo DB. Even supervised machine learning is done in lambda to get some useful insights. Paper tickets also generates a lot of paper waste on a daily basis from millions of commuters travelling from various source to destination. The introduction of technologies has only paved way for quick & fast computing and also information gathering which are directly or indirectly beneficial for the authorities. The Automatic Ticket Vending Machine was introduced to scrap CVM coupons and avoid long queues. But ATVM machines still does not scrap the idea of paper ticketing. Mobile application was further introduced to make it more feasible and convenient for the consumers to book tickets online. But this type of technology requires Internet provisions and Smart phones to avail these services.

SURVEY ON GPS TRACKING SYSTEM:

Railway is the most commonly used transportation vehicle. Most of the people choose this transportation mainly for low cost and it gives comfort ability. To increase this comfort zone and to reduce the number of accidents, control over the railway level crossing gate is done through smart phones by the engine driver. The existing system aimed to avoid the accidents in the railway tracks. It also planned to reduce the manpower in railway gates. It omits the entire man power in the railway gates. There are many applications to track the location of the train which makes the passengers to arrive the junction at the right time. Also, there is a remainder which alerts the passenger before 5 or 10 minutes the junction arrives.