TransitPay

Creating a world without tickets...

Introduction:

In the current times, we need to either buy a physical or a ticket on our mobile devices and redeem them as and when required. Which is just one more trivial thing taking the space in our heads apart from much more important things that keeps us up with the kardashians.

We have come up with a solution to this major travelling problem, where you never even have to remember to buy the tickets.

TransitPay is an application that tracks your journey in the train and automatically charges you according to your itinerary. No need to buy or redeem the tickets, just carry your phone with you and you are all set to board!!

Implementation:

TransitPay system aims at reducing the hassle of the whole ticketing system. The user can simple install the app into their mobile devices and load a certain amount of money into their wallets.

The train doors are equipped with NFC radars that the application will detect and send a checking ping to the server once a user enters the train, this will check the user into the train and the journey will begin.

The same sensors will detect the user moving out of the train and the application will check him out of the train.

Once checked out, the application will run the calculation on the user's journey and calculate the fare, which will then automatically be deducted from the user's wallet.

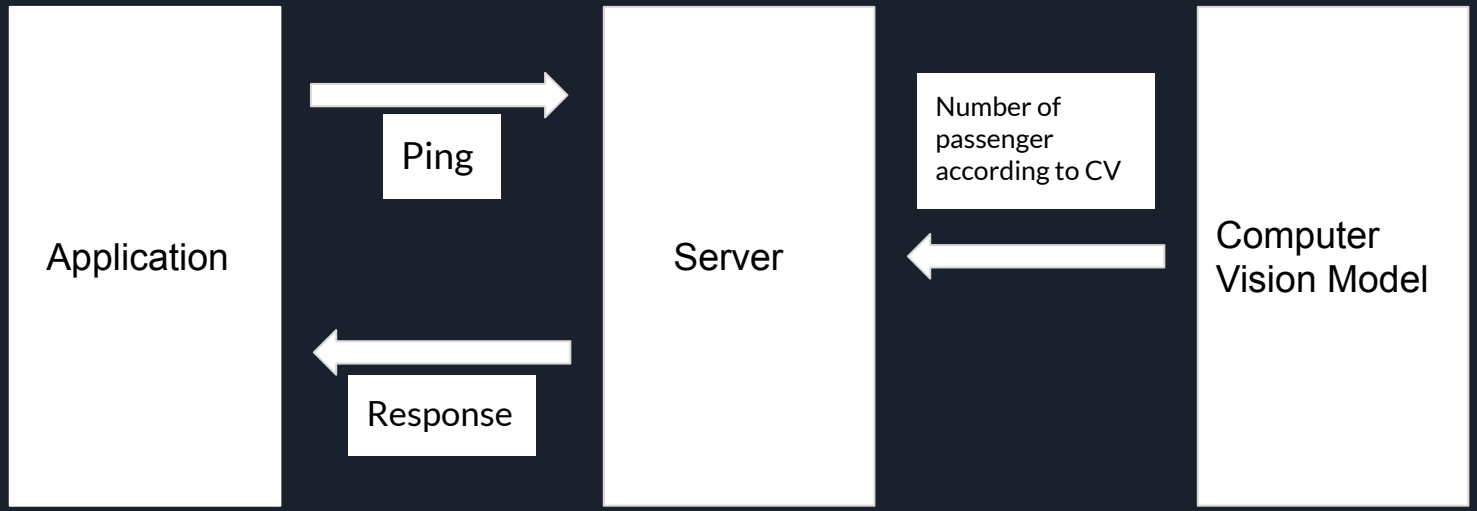
And the good thing is… the user never even had to open the application, everything is done in the background.

What if someone does not have a phone? Or have a physical ticket?? Or trying to cheat the system???

TransitPay is not just an application, it's a whole system, we have cameras installed on all out exits that count the number of people entering and exiting using a Computer Vision model, this model keeps a count of all the activities at the doors and sends the count of total people that are supposed to be in the compartment.

This number is then compared with the count of the live tickets in that train, in case of any disparity between the numbers, the conductor is informed and they can check the particular compartments.

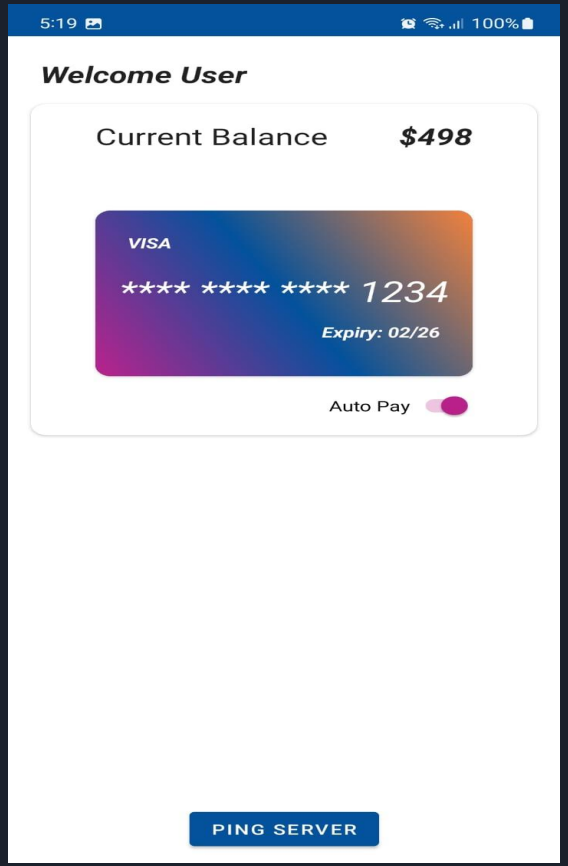
Architecture model:

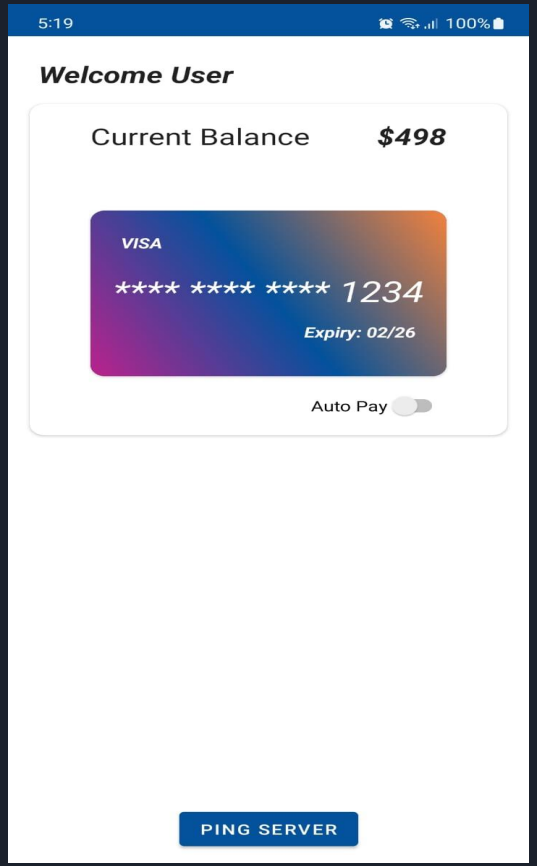


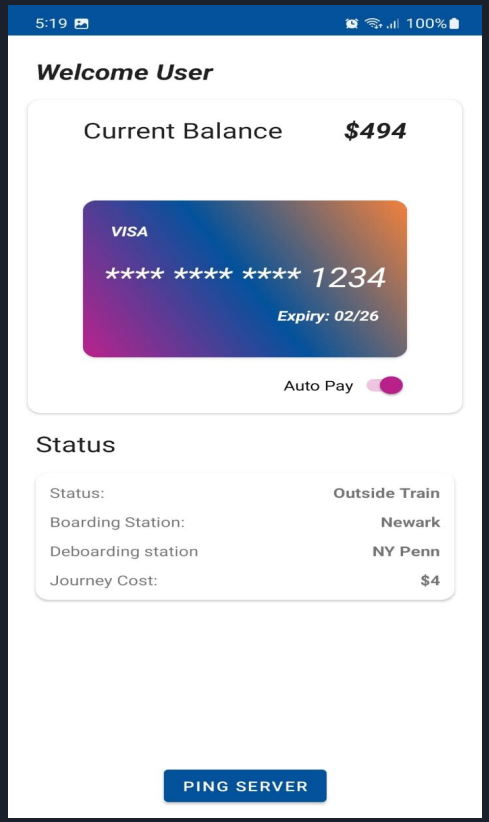
Application sends a ping as soon as NFC radar is detected.
Server checks if this is a checkin or checkout ping.
If checkin, the user is checked in. else the response is set to fare and the fare is sent back to the user, and is deducted from the wallet.
CV model runs parallelly while calculating the number of passengers and send the count to the server at every door close event.

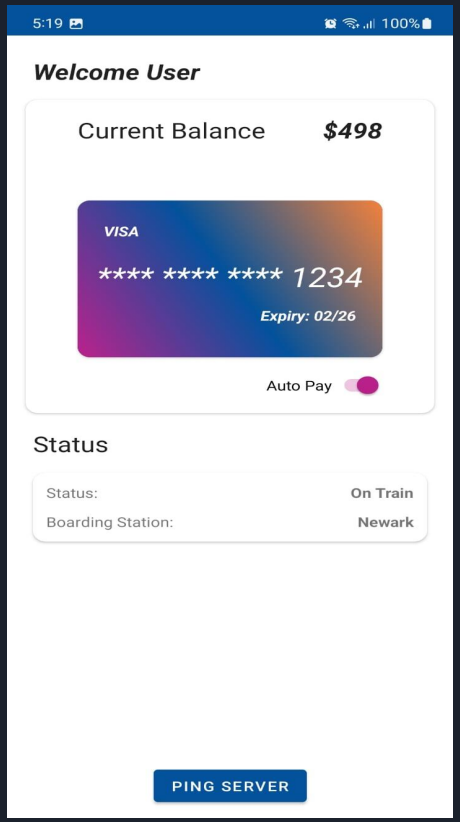
Tools and Technologies:

Implementation Screen Shots:






5:19
100%
Welcome User
Current Balance
$494
VISA
**** **** **** 1234
Expiry: 02/26
Auto Pay
Status
Status:
Outside Train
Boarding Station:
Newark
Deboarding station
NY Penn
Journey Cost:
$4
PING SERVER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100%
Welcome User
Current Balance
$498
VISA
**** **** **** 1234
Expiry: 02/26
Auto Pay
Status
Status:
On Train
Boarding Station:
Newark
PING SERVER

Real Life implementations:

This project depicts a perfect use case for NJ transit, busses and trains system, this will ease out the efforts of the conductor and will reduce the ticketing hassle.

With the amalgamation of Computer Vision , Android and Web technologies, the system ensures minimal error and garunettes a hassle free and safe travel.

Thank you!

Keep travelling on! Without the tickets!!