**Chapter 1**

**Introduction**

With the popularity in India of mobile payment platforms such as Paytm and PhonePe, QR codes can be found almost anytime, anywhere in Indian daily life. From luxury shopping centers to street vendors, consumers can make payments easily by scanning a QR code with their smartphones. The awkwardness of forgetting your wallets at home no longer exists. As long as you have a mobile payment set up on your phone, you can virtually always go cashless in India. But, things are changing as we speak. QR codes are just a step in the evolution of mobile payment technology and they may soon be a thing of the past. In fact, soon people in India may be able to forget about QR codes, and pay with virtually nothing but themselves. This new payment method we are talking about is facial recognition, which we are planning to implement in Cabs.

**How does facial recognition work?**

Using a series of algorithms, facial recognition technology works by scanning your face using a digital camera, analysing it based on a variety of physical traits. Using this analysis, the system can create a face print - a unique code of individual face, which is stored and accessed through an identity database.

1. **Motivation and Problem Statement**

The number of online banking users has increased in India and indeed the world; this has led to many experts in mobile banking software and mobile phone technology to research new and convenient methods for customers to perform banking transactions remotely via their mobile phones. Mobile banking is also known as mobile phone bank. It is referred to as the using mobile phone for banking related business. But the problem is that it is not convenient for users to enter long high security passwords every time they want to make a transaction or remember their UPI VPA(Virtual Private Address), or even carry credit cards or debit cards everywhere. That’s highly inconvenient to the users. So, we are proposing a system where you don’t have to carry cards or remember your VPAs.

**1.2 Objectives**

The objectives are as follows:

* To design real time face recognition system for cabs transactions.
* To design a system where face can be used for logging into profile.
* To design a system for cabs where face detection system can also be used to pay along with card or cash.
* To design a System where once your load your profile you can initiate a transaction without any card.
* To make this system robust and to be used in future in other applications.
* To design a secure system for cab transaction using facial recognition technique.
* To develop and improve existing algorithm to make Facial recognition accurately possible on twin person images.
* To perform and evaluate the proposed system framework by comparing with existing facial recognition systems.

**1.3 Scope**

Improving facial recognition accuracy using as less user images as possible. Security of the payment gateway engine, easy user interface.