Semester Project
MSCS 630

"Ed's Traveling Barbershop" **Android App**
Jay Modi

1. **<u>Abstract</u>**

The purpose of this project is to explore the implementation of different security algorithm and protocols in an Android App. While the number of applications on the Google Play Store increases dramatically over time[1], security has lagged behind. Very elementary mistakes such as leaving secret keys or tokens exposed and not encrypting sensitive information may be more common than one thinks.
This project intends to exemplify some of the security measurements that developers may implement during the app development process, and the solutions they provide for ensuring that sensitive information is safe.

2. **<u>Introduction</u>**

My motivation for pursuing this specific project is that it provide a glimpse into some of Security issues that may arise during app development and how to solve them.
In addition, this project exemplifies that some measures can be very simple to implement while making a significant difference in the app's general security.
Moreover, the specific project topic which is a mock barbershop, indicates how the subject of Cryptography ties-in to real world applications that are used on a daily basis.

3. **<u>Methodology</u>**

The approach was taken in this project was to build a skeleton (or a "Mock") android App for a friend, who could potentially use it in the real world as a finished product.
To begin, the app would only had very low level and simple functionality such as saving the user's appointment info to a database, without any encryption or security standards.
As the project progresses, AES encryption would be added to protect the user's specific personal/sensitive information.

4. **<u>Experiments</u>**

Some of the experiments that were done during the implementation phase were initially inserting information to the database without encryption, and then progressing towards implementing encryption of the user's name using AES while examining some key mistakes that were made along the way.

---

[1] http://static1.volkskrant.nl/static/asset/2014/playdrone_5524.pdf - 25% increase June - November '13.