Extending Google Android's Application as a Social Matchmaking Tool

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Abstract- This paper introduces how to extend Google's Android Platform as a social matchmaking tool by using the latest embedded software features , sensors and integration with social (Application Programming Interface) API's such as Facebook and Twitter. It starts with the importance of social networks in the context of matchmaking and then proposes a sample framework by using Android's (Software Development Kit) SDK and framework to build apps that intelligently match personalities and suggest potential matches.

Index Terms- Android, Android platform, Social Networks, Matchmaking, Android SDK

I. INTRODUCTION

The importance of social networks and their integration with mobile phones in our lives is becoming more and more recognized. The advent of Google's Android Platform and Social Platforms such as Facebook and Twitter opening up their APIs for mobile platforms provides new exciting avenues for building intelligent socially aware apps for mobile platforms and devices. This research was inspired by teaching college students to experiment with the new Facebook APIs and harness the social functionality into their applications.

Admittedly there is some stigma associated with meeting people online – especially through dating sites. One may seek relationships online because the variety of people around may be limited and one may not find an attractive person to date. Since the beginning of fourth century [1] India has a rich tradition of arranged marriages that have been practiced mainly to establish a sacred bond between two families. Online dating websites such as shaadi.com have had enormous success by reaching 20 million users. This shows that in countries like India matchmaking services have immense potential. However one cannot simply marry someone by looking at their photograph or background. It is necessary to assess various traits and common things between the two people to make them click.

This is where Android and Social Services like Facebook come in. Facebook has over 800 million users[2]. The social media giant has 425 million mobile users. Facebook stores a variety of user data right from what their birthday is to what they like to eat, where they studied and so on.

This information can be useful in matching individuals. Smartphones such as Android are location aware, which allows your places of interest to be shared and matched with similar individuals. We look into these various aspects in our paper.

II. THE IMPORTANCE OF SOCIAL NETWORKS IN MATCHMAKING

A social networking service is an online service, platform, or site that focuses on facilitating the building of social networks or social relations among people who share interests, activities, backgrounds, or real-life connections. A social network service consists of a representation of each user (often a profile), his/her social links, and a variety of additional services. Most social network services are web-based and provide means for users to interact over the Internet, such as e-mail and instant messaging. Social Networks store user data and may make them available to other users. Social networks may store a variety of information such as:

1) Name
2) Birth day, Date, Year
3) Current Location, Hometown
4) Past visits to geographical locations and the duration of the stay
5) Interests – music, movies etc
6) Sexual Orientation
7) Photographs

We can harness this information for matching details of individuals based on specific criteria

III. THE IMPORTANCE OF SMARTPHONES IN MATCHMAKING

Smartphones are used everywhere in the world and are capable of various data aggregation and connectivity functions. Smartphones can be programmed to run specific software or in simple terms "apps". Google Android is one such open source platform that allows development in a Java based environment. It also allows you to harness the power of all the native phone functions and also allows any third party API's to integrate with one's product. Smartphones are capable of but not limited to:

1) Storing Location data – Where one has been, How much time one spends, What one does there, etc

2) Face recognition, detection and tracking

3) Recording data such as which songs one plays, what kind of apps one downloads or buys, what kind of games one plays etc

4) Communicating over 3G and EDGE providing real time location data and instant messaging

IV.   THE BASIC FRAMEWORK

We propose a sample framework where you can harness the power of social API's and smartphone functionality. Let us propose a basic app which has

1) Connectivity to Facebook via GPRS
2) Facebook API integrated into the application
3) Location Aware integration

The application will first log you into to Facebook with your credentials validated. Once logged in the app will connect to Facebook via their Android API for Facebook. The app will retrieve the details of your friends with the Facebook graph API. The details of each friend will be matched with the aggregated data from your Facebook profile. Whatever details are common to both parties will be listed and a percentage of common interests will be calculated. The application will then find out the users locations and inform the user if the users live close by or are in your area, in case you want to meet them. It will periodically use the location date from one's phone to find out details based on user location. For example if you eat three times a week at a Chinese restaurant, the app will record that data and assume you like Chinese food. It will then match all the friends in your Facebook list and find out which friends go to the same restaurant or have a predilection for Chinese food. The app may also contain a feature that allows you to short list any potential matches you like. If two people list each other, the cloud based system will automatically recognize and send them a message indicating they are interested in each other.

V.   IMPROVEMENTS AND FUTURE WORK

The app will be able to match pictures taken of someone not in their friends list and match them up with their Facebook profiles with face recognition technologies. It will automatically inform the user of mutual friends and suggest methods of contacting them. It may also analyze any patterns such as how often one listens to a particular type of music and if any of their friends are listening to that particular song at that time. The app will also analyze patterns of behavior such as high frequency texting, social content sharing frequency and will upload that data on cloud hosting for further analysis.

VI.   CONCLUSION

We can see from this paper that there is immense potential in harnessing the power of social networks and mobile technologies for matchmaking.

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