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Friendbook: A New Friend Recommendation Application

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Abstract:- Android has been revolutionary since its evolution. Android Applications have given a new dimension to the mobile market. Here the Application allows a user to make friends online on basis of their lifestyle matching quotient. Overall idea behind social networking and its friend suggestion algorithm has been improved. Thereby this application a new dimension to social networking.

Keywords:- *Android, Social Networking, Latent Richlet Allocation Algorithm, Friend Recommendation.*

I. INTRODUCTION

Existing social networking services suggests friends to users based on their social parameters, which may be inappropriate to reflect a user's preferences on friend selection in today's realistic life of people. We would like to design and implement a semantic-based friend matching system that allows users with same type of interests to be quickly noticed by our website and recommended while preserving users' privacy.

The proposed friend matching method is semantic-based instead of conventional keyword-based or relation-based as most existing networks adopt. As the name suggests, this app is dedicated and designed so that users can take notes of everything that user's new acquaintances like. If user only knows a person for a short while and user can't be so sure whether they can be good friends, one can use this app to help the user out of this situation. For a person who is surrounded by lots of people from various backgrounds, Friendbook is an amazing tool the user can have.

Friendbook recommends friends to users based on their lifestyles instead of their social graphs. By making advantage of high-end smartphones in today's world, Friendbook discovers lifestyles of users from user-centric data from sensors, measures the same type of lifestyles between different users, and recommends friends to users if their lifestyles have high similarity. We propose an effective similarity metric for measuring the similarity of interests between different users, as well as a dynamic programming search algorithm to find the similarity of any pair of users.

Upon receiving data for a new person, Friendbook returns a list of people with highest recommendation scores to the query user. We have implemented Friendbook on Android-based smartphones and have judged its performance on many different types of experiments both large and small scale. The results show that the recommendations accurately reflect the preferences of users in choosing friends.

II. REVIEW

A. *Existing Sysytem*

People typically make friends with others who live or work close to themselves, such as neighbors or colleagues. Now a day's friend recommendation is based on the mutual friends being shared, through which anyone picks up the friend from recommended list. For e.g., in Facebook, Twitter, Google+ etc. This is totally dependent on the link analysis who share common friends. According to Facebook statistics, every user has an average of 130 friend which is large in the history. So, our main motto is to have a good recommendation of friend base on social graph of people.

Disadvantages:

- Not based on the social graph of people.
- Suggestions given to the user may be inappropriate.
- It takes care of only a single aspect of a person and don't take care of other aspects.
- Does not make use of recent and upcoming technologies.

B. *Proposed System*

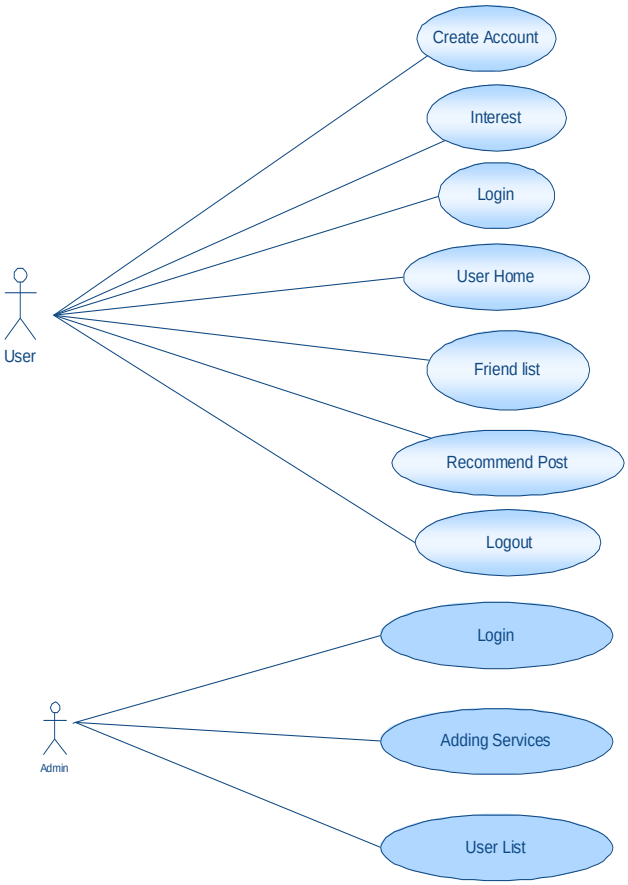
Our proposed system is inspired by advances in smartphones, which are more popular today. By taking advantage of smartphone, Friendbook discovers lifestyle of user from user-centric data, which measures similarity of lifestyles between the users and recommend friends based on their lifestyle. There are few challenges in doing this. First, automatically and accurately discover lifestyles from noisy and heterogeneous sensor data. Second, measure the similarity of users in terms of their lifestyle. Third, recommendation to the user among all the friend candidates. To address these

challenges, Friendbook, a novel semantic-based friend recommendation is done. We extracted such information using Latent Dirichlet Allocation algorithm. This gives an Impact in terms of lifestyles with a friend-matching graph. we integrate these details and accordingly suggest a friend request. This recommends friend similar to their lifestyle. Also, this is more real, and satisfy the user's need.

III. DESIGN PROCEDURES AND METHOD

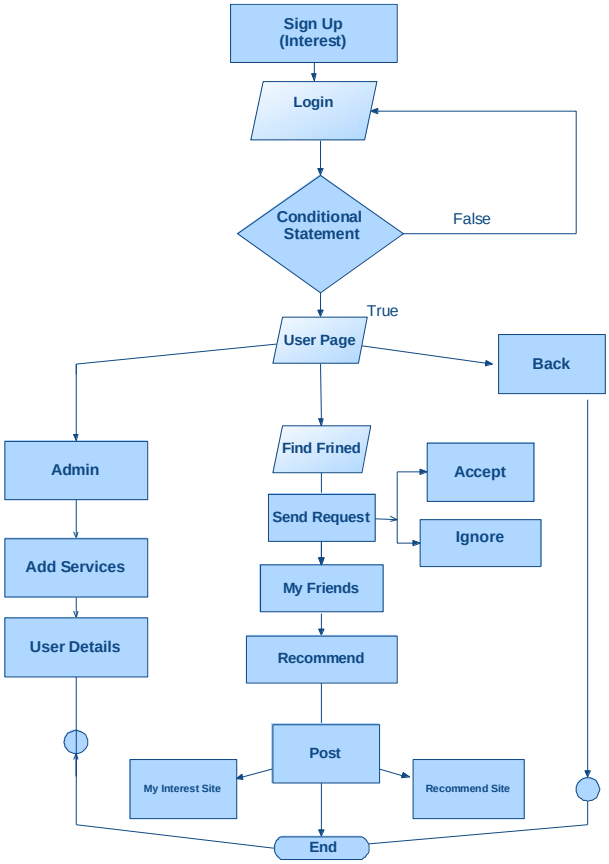
C. General Approach shown using use case diagram

Use case diagram is a simple way of representation of a user's interface and interaction with the system that shows us the links between the user and different use cases where user is involved. A use case diagram can be used to identify the various types of users a system can have and the different use cases and accompanies by many other forms of diagram. The very purpose of it is to present a graphical outline of the functionality provided by a system in terms of actors, their goals (represented as use case diagram), and the dependencies that lie between the use cases are shown.



D. Using Activity Diagram

Activity diagrams is the graphical outline of workflows of one-by-one activities and actions with support for choice, iteration and concurrency. In the Unified Modeling Language, activity diagrams can be used to explain the business and operational step-by-step flow of work of the components in a system. An activity diagram shows the overall flow of control of our project.



IV. FUNCTIONAL MODULES

E. User Profile

User Profile is the home page for every user. It shows the recent activity by the user's friends. This will use Global Positioning System in the background and update user entries. User Profile also has the option to see the friend Suggestion.

F. Sign UP

Sign Up module is an activity in this android application which is used to facilitate ne users to sign up with this application. The Sign-Up activity asks for data entries of the new user as well as likes of the user on basis of different categories. Sign Up activity stores the data entered on the database and is used for further log in purposes.

G. User Entries

User Entries are activity which asks users to enter their likes and dislikes based on many parameters which are general lifestyle parameters like movies, books, education etc. It is also populated by the values intake from Global Positioning System.

H. Global Positioning System

Global Positioning system is an important module in this application as this facilitates user to populate their user entries by tracking the user's location. If a user is visiting some places frequently then that particular location will be added in the lifestyle entries corresponding to frequently visiting places. Its results are also considered by the matching algorithm.

I. Matching Algorithm

This is the heart of the application where a particular user's entries are matched to that of all the users' entries in the database. Then on the basis of best match algorithm the users which best matches the current user's entries are sent to the friend suggestion module. Here the matching algorithm searches along all the entries of one profile to another and comes with a matching quotient which is also displayed along with the matches.

J. Friend Suggestion

This module keeps track of all the user suggestion that is feeded to it by the Matching Algorithm. It shows the friend suggested to the user along with their derived quotient. Friend Suggestion can be directly invoked from the user's profile asking for the friend suggestion with current set of data entries.

V. CONCLUSION

The application gives a new approach towards social networking where friend suggestions has been revolutionized. Instead of getting it from the count of mutual friends, it has now been done from the lifestyle matching (how good u matches with other people).

The searching algorithm used is Latent Dirichlet Allocation algorithm which facilitates in parallel computing thereby reducing the time taken in finding the matches. It makes the application run faster while on low level android versions. The motive of application to get the friend suggestions as fast and accurate as we can has been achieved.

The applications achieve significant changes to the existing system. It has been targeted to the youth for their demands of finding people with common interests. This can be extended to further enhance the current structure and with more features to be a better social networking app.

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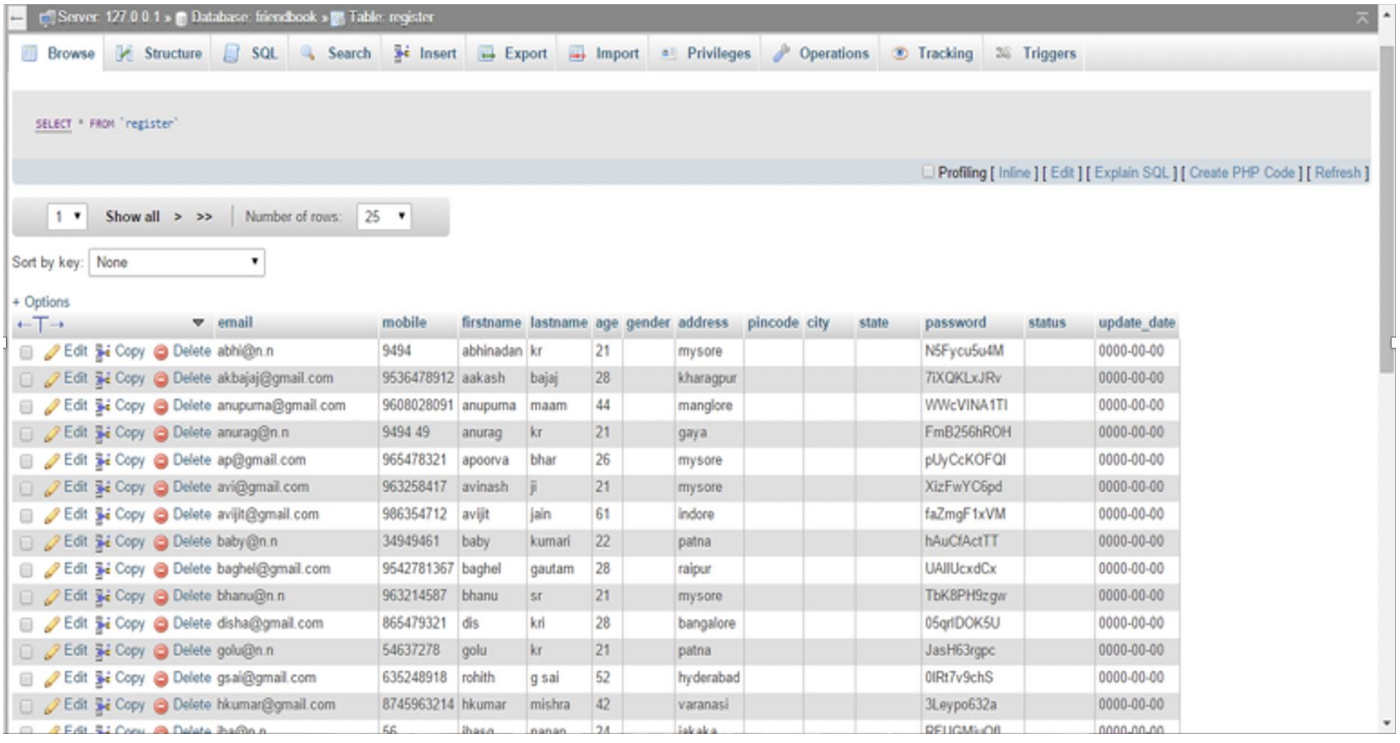

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