Enhancement of Privacy and User Interaction in a Social Network with the Aid of Adaptive Intelligence

Puneet Palagi
Assistant Professor,
CSE Department,
NHCE, Bangalore.

Dr. Ashok Kumar PS
Professor and Head,
Department Of ISE
DBIT, Bangalore

ABSTRACT: Focusing on enhanced user-interaction avoiding a simple like button by adding a post-interaction rate feature that technically creates an extra dimension into liking a post. User is able to save pictures to the cloud. Saving memory effectively and creating on-time content. The main purpose is to enhance Privacy and creating an advanced user interface/interaction allowing a fair share of reaction to a post. When a user posts a picture, the following user interacts with the picture after tapping the PIB (Post Interaction Button). The picture will be evaluated as long as the user has the post in view. Also allow no duplication to the post shared by the user. When a user posts a p icture it shouldn't be devalued. Our app ensures that the post will be rated according to the user interaction. Able to publish posts on other social medias, making it uni-directional. Introducing this unique social networking mobile-based application where a user can share photos, videos and texts with extreme privacy, uploading them even by making them anonymous to the group. Assuring a reliable place to take and share and save posts from anywhere around the world.

_____*****_____

1. INTRODUCTION

Enhanced privacy and an advanced User-Interface is what is lacking in our current world. We need an app that can fulfill all these issues and come up with something that is essential, that creates urgency in using it when it comes to photography.

Introducing a unique social networking mobile-based application where a user can share photos, videos and texts, with extreme privacy, uploading them even by making them anonymous to the group. Assuring a reliable place to take and share and save posts for the people and users.

Storing the posts onto the cloud, by our cloud storage system, saves the phone memory to its fullest. Hence, allowing the user to produce on-time content.

Irrelevant suggestions from our social media networks, leading to duplication is eradication by our app-alone upload system. Unrestricted access to other accounts or viewing them compromising a private connection letting them see users activities. Mandatory response to posts made by our friends and followers and thus, making it an unavoidable actions due to prioritization.

Such interactions prevent a media to have its anonymity as well as being social enough to others. We focus on enhanced user- interaction avoiding a simple like button by adding a post- interaction rate feature that technically creates an extra dimension into liking and enjoying a post.

2. PROBLEM DEFINITION

We define social networking application as a mobile-based services that allow individuals to construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection and view and traverse their list of connections and those made by others within the system. The nature and nomenclature of these connections may vary from app to app.

Since their introduction, social network sites (SNSs) such as Facebook, Instagram have attracted millions of users, many of whom have integrated these sites into their daily practices. As of this writing, there are thousands of SNSs, with various technological affordances, supporting a wide range of interests and practices. While their key technological features are fairly consistent, the cultures that emerge around SNSs are varied. Most sites support the maintenance of pre-existing social networks but others help strangers connect based on shared interests, political views, or activities. Some sites cater to diverse audiences, while others attract people based on common language or shared racial, sexual, religious, or nationality-based identities. Sites also vary in the extent to which they incorporate new information and communication tools, such as mobile connectivity, blogging and photo/video-sharing.

Social networking sites are not only for you to communicate or interact with each other globally but, this is also one effective way for business promotion. A lot of business minded people these days are now doing business online and use these social networking sites/app to respond to customer queries. It isn't just a social media site used to socialize with your friends but also, represents a huge pool of information from day today living.

A social networking service is an online service, platform, site or a mobile application that focuses on

messaging. Online community services are sometimes considered as a social network service, though a broader sense, social network service usually means an individual-centered service whereas online community services are group-centered. Social networking sites/app allow users to share ideas, activities, events and interests within their individual networks or through their own Smartphone.

3. PROJECT PURPOSE

Allow no duplication to the post shared by the user. When a user post a picture it shouldn't be devalued. Our app ensures that the post will be rated according to the user interaction. Genuine content which can be posted once. Uploading pictures captured from the app alone. User is able to save pictures to the cloud. The main purpose is Enhanced Privacy and an advanced and unique user interface/interaction allowing a fair share of reaction to a post.

4. PROJECT FEATURES

When a user posts a picture, the following user interacts with the picture after tapping the PIB (Post Interaction Button). The picture will be evaluated as long as the user has the post in view, based on the algorithm developed in - PHP. Both Public or Private accounts will have 3 intro images in their home page. Activities of the users are only shown anonymously. Hence privacy is a main feature – algorithm that checks if the user has permission to view the post first before displaying it – PHP, Search bar used in the app used to display contents from around the globe .Notification log file that interacts with the server to check if data is available to display. Also a floating notification button
– ease of access to home/profile/search/notification. Able to publish posts on other social medias .Making it uni-directional. Any new updates will be notified to the user. Elite users - Users with higher number of post : response ratio, once hits a threshold turns into an Elite. With less resistance in Post-Interaction Rate. Additionally every post has a report/abuse icon, allowing the user to respond to the post instantly if it contains any abuse content. The owner of the post will be notified about the same to delete the

5. SYSTEM REQUIREMENTS
5.1 Literature Survey

Advances in mobile technology have enabled a wide range of applications to be developed that can be used by people on the move. Developers sometimes overlook the fact that users will want to interact with such devices while on the move. Small screen sizes, limited connectivity, high power consumption rates and limited input modalities are just some of the issues that arise when designing for small, portable devices. One of the biggest issues is the context in

which they are used. As these devices are designed to enable users to use them while mobile, the impact that the use of these devices has on the mobility of the user is a critical factor to the success or failure of the application. Current research has demonstrated that cognitive overload can be an important aspect of usability (Adams, 2007; Adams, 2006). It seems likely that mobile devices may be particularly sensitive to the effects of cognitive overload, due to their likely deployment in multiple task settings and limitations of size.

The Mobile-based social networking services make it possible to connect people who share interests and activities across political, economic and geographic borders. Through email and instant messaging, online communities are created where a gift economy and reciprocal altruism are encouraged through cooperation. The first photo sharing sites originated during mid to late 1990's and provided photofinishing service(i.e. online ordering of prints). Later, during early 2000's , many more sites came into market with the goal of providing permanent and centralized access to a user's photos and in some cases video clips too. Webshots, SmugMug, Yahoo! Photos and Flickr were among them.

5.2 EXISTING SYSTEM

Photo sharing application is used to share pictures with their friends. An application like instagram allows users to post pictures and value the pictures based on likes. The privacy option of such application is minimal. When a user wants to follow another user, user can see only the thumbnail picture of the other user. User will not be able to figure out the face of the user, this causes confusion in users mind whether to follow the user or not.

Disadvantages:
Liking and disliking a post with wrong purpose to value or devalue the content.
Compromised privacy connections.
Unavoidable actions on a content post by other user (friends, families, etc) due to priorities.

5.3 PROPOSED SYSTEM

The project allows users to interact with the picture posted. And value the content of the post based on user interaction. It helps the post to get the appreciation based on the amount of effort the user has put to capture the picture and the outcome of the captured picture.

Advantages:
Value the content based on user interaction.
Give rating based on the user(those who viewed the picture) liking.

Enhanced privacy by providing intro images.
It reduces the confusion of the user whether to follow or not.
Gives importance to the efforts put by the user to capture the picture.

6. REQUIREMENT ANALYSIS
6.1 FUNCTIONAL REQUIREMENTS
In software engineering, a functional requirement defines a function of a software system or its component. A function is described as a set of inputs, the behavior, and outputs. Functional requirements may be calculations, technical details, data manipulation and processing and other specific functionality that define what a system is supposed to accomplish. Behavioral requirements describing all the cases where the system uses the functional requirements are captured in use cases.
Here, the system has to perform the following tasks:
☐ Take username and password, match it with corresponding database entries. If a match is found then continue else raise an error message.
☐ Login the application
☐ Post pictures
☐ Interact with the picture of the following user
☐ Edit profile info
☐ Post intro images

6.2 NON-FUNCTIONAL REQUIREMENTS
In systems engineering and requirements engineering, a non-functional requirement is a requirement that specifies criteria that can be used to judge the operation of a system, rather than specific behaviors. This should be contrasted with functional requirements that define specific behavior or functions. The plan for implementing functional requirements is detailed in the system design. The plan for implementing non-functional requirements is detailed in the system architecture.
Other terms for non-functional requirements are "constraints", "quality attributes", "quality goals", "quality of service requirements" and "non-behavioral requirements". Some of the quality attributes are as follows:

6.2.1 ACCESSIBILITY:
Accessibility is a general term used to describe the degree to which a product, device, service, or environment is accessible by as many people as possible.
In our project people who have registered with the application can access the social network to post their picture.
User interface is simple and efficient and easy to use.

6.2.2 MAINTAINABILITY:
In software engineering, maintainability is the ease with which a software product can be modified in order to:

☐ Correct defects
☐ Meet new requirements
New functionalities can be added in the project based on the user requirements just by adding the appropriate functions to existing project using AngularJS and PHP programming languages.
It is easier to find and correct the defects and to make the changes in the project.

6.2.3 SCALABILITY:
Application can run in any conditions (24 X 7) and there are no fixed number of users to log in and use the application.

7. DESIGN
7.1 MODULAR DESIGN
The application comprises the following major modules:
7.1.1 MEMBER MODULE
This module provides functionalities for those people who wants to open an account. Applicants can post their views with personal and professional details. They can also update the profile as frequently as required. The member can also browse through the friends profile available. Members can also get message when their friends message them.

7.1.2 PROFILE MODULE
This module provides functionalities related to members profile. Logged users can see their details and if they wish to change any of their information they can edit it.

7.1.3 ADMIN MODULE
This module provides administrator related functionalities. Administrator manages entire application and maintain the profile of all the registered users and their activities.

7.2 DATA FLOW DIAGRAM
Data flow diagrams model the flow of data into, through, and out of an information system:
☐ Show the processes that change or transform data
☐ Show the movement of data between processes
☐ Represent a system as a network of processes which transform data flowing between them

7.3 USE CASE DIAGRAM
A use case diagram is a graphic depiction of the interaction among the elements of a system. A use case methodology is used in system analysis to identify clarify and organize system requirements. In this context the term system refers to something being developed or operated, such as messaging between two users. Use case diagrams are employed in UML, a standard notation for modeling of real-world objects and systems.

The actors, usually individuals involved with the system defined according to their roles.

The use cases, which are the specific roles played by the actors within and around the system.

The relationship between and among the actors and the use cases.

7.4. DATABASE

A database is an organized collection of data. It is the collection of schemas, tables, queries, reports, views and other objects. The data are typically organized to model the aspects of reality in a way that supports processes requiring information, such as modeling the availability of rooms in a hotel in a way that supports finding a hotel with vacancies.

A database management system (DBMS) is a computer software application that interacts with the user, other applications, and the database itself to capture and analyze data. A general-purpose DBMS is designed to allow the definition, creation, querying, update, and administration of databases. A database is not generally portable across different DBMSs, but different DBMS can interoperate by using standards such as SQL and ODBC or JDBC to allow a single application to work with more than one DBMS. Database management systems are often classified according to the database model that they support; the most popular database systems since the 1980s have all supported the relational model as represented by the SQL language. Sometimes a DBMS is loosely referred to as a "database".

Formally, a "database" refers to a set of related data and the way it is organized. Access to this data is usually provided by a "database management system" (DBMS) consisting of an integrated set of computer software that allows users to interact with one or more databases and provides access to all of the data contained in the database (although restrictions may exist that limit access to particular data). The DBMS provides various functions that allow entry, storage and retrieval of large quantities of information and provides ways to manage how that information is organized.

Because of the close relationship between them, the term "database" is often used casually to refer to both a database and the DBMS used to manipulate it.

Outside the world of professional information technology, the term *database* is often used to refer to any collection of related data (such as a spreadsheet or a card index). This article is concerned only with databases where the size and usage requirements necessitate use of a database management system.

Existing DBMSs provide various functions that allow management of a database and its data which can be classified into four main functional groups:

- Data definition – Creation, modification and removal of definitions that define the organization of the data.
- Update – Insertion, modification, and deletion of the actual data.
- Retrieval – Providing information in a form directly usable or for further processing by other applications. The retrieved data may be made available in a form basically the same as it is stored in the database or in a new form obtained by altering or combining existing data from the database.
- Administration – Registering and monitoring users, enforcing data security, monitoring performance, maintaining data integrity, dealing with concurrency control, and recovering information that has been corrupted by some event such as an unexpected system failure.

Both database and its DBMS conform to the principles of a particular database model. Database system refers collectively to the database model, DBMS and database.

Physically, database servers are dedicated computers that hold the actual databases and run only the DBMS and related software. Database servers are usually multiprocessor computers, with generous memory and RAID disk arrays used for stable storage. RAID is used for recovery of data if any of the disks fail. Hardware database accelerators, connected to one or more servers via a high-speed channel, are also used in large volume transaction processing environments. DBMS are found at the heart of most database applications. DBMS may be built around a custom multitasking kernel with built-in networking support, but modern DBMSs typically rely on a standard operating system to provide these functions.

Since DBMSs comprise a significant market, computer and storage vendors often take into account DBMS requirements in their own development plans.

Databases and DBMSs can be categorized according to the database model(s) that they support (such as relational or XML), the type(s) of computer they run on (from a server cluster to a mobile phone), the query language(s) used to access the database (such as SQL or XQuery), and their internal engineering, which affects performance, scalability, resilience, and security.
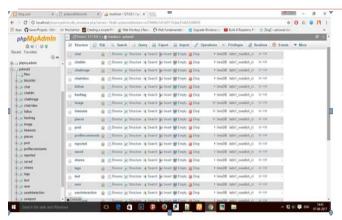
Fig 4.4.1 List of tables

7.5 TEST CASES
Table 6.1: Test Case for User Registration (Signup)

S. NO	INPUT	TEST CASE	CONDITIONS BEING CHECKED	RESULT
1	USERNAME	ALREADY EXIST OR NOT	USERNAME SHOULD BE UNIQUE	SUCCESSFUL
2	USERNAME	EMPTY	ENTER VALID USERNAME	SUCCESSFUL
3	EMAIL	EMPTY	ENTER VALID EMAIL	SUCCESSFUL
4	EMAIL	ALREADY EXIST OR NOT	ENTER UNIQUE EMAIL	SUCCESSFUL
5	PASSWORD	EMPTY	ENTER VALID PASSWO	SUCCESSFUL
6	CONFIRM PASSWORD	EMPTY	PASSWORD AND CONFIRMATION PASSWORD MUST BE SAME	SUCCESSFUL

CHAPTER 8
CONCLUSION AND FUTURE ENHANCEMENT
8.1 CONCLUSION

While developing the system a conscious effort has been made to create and develop a software package, making use of available tools, techniques and resources that would generate a proper system for a Social Media.

While making the system, an eye has been kept on making it as user- friendly. As such on may hope that the system will be acceptable to any user and will adequately meet user needs. As in case of any system development process, where there are a number of short comings, there have been some shortcomings in the development of this system also.

There are some of the areas of improvement which couldn't be implemented due to time constraints. One such feature was Photo Sharing based on Location.

8.2 FUTURE ENHANCEMENT
- Photo sharing based on Location
- Suggestion of pictures based on Location
- Editing of Pictures
- Capture Picture from app alone camera and produce on-time content

Sites Referred:

[1].   http://www.angularjs.org
[2].   https://w3techs.com/sites
[3].   https://.codeconquest.com
[4].   http://www.computer.org/publications/dlib
[5].   http://www.developerfusion.com/