SOEN 342

Software Requirements and Specifications

(Phase 1)

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Application Name: Red String

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ABSTRACT

This document presents some suggestions on improving the online dating experience, by providing new features for the benefit of the user. The current dating apps that are on the market lack good messaging interfaces for people to connect and also lack good algorithms when looking for potential matches. Our objective is to propose features to improve the overall online dating experience by improving the messaging interface and implementing a more efficient matching algorithm such as implementing social group chats, "Looking for" Option Model and Chat & Play. These features will be discussed in more detail later in this report.

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1. ELICITATION TECHNIQUES

In this part, we used two elicitation techniques to gather information about the existing systems. We used a stakeholder-driven technique, group sessions, and an artifact-driven technique, background study. These elicitations techniques permitted the development of system-as-is and system-to-be.

1.1 Group Sessions

As stakeholders of the application, we had a few group sessions where we discussed the available dating apps in the markets. Even though we are part of the development team, some of us have experience using dating apps. So, we were also considered as users. Here are some of the questions that we asked to the group:

- What dating apps have you used before?
- What did you like about the app?
- What did you not like about the app?
- What would you improve/change?

After brainstorming, we determined that the top three apps used within the group are Tinder, Hinge and Bumble. To further investigate the apps, we launched a background study for each of them.

1.2 Background Study

For this document we relied heavily on analyzing the market to come up with our requirements. We did a background study on all the dating apps targeted in the group session. The study was accomplished by reading several documents relating to:

- The organization: by looking at their financial reports to get an idea about the extent of their success and try to understand the factors behind that (which features were more popular, which ones brought the most revenue….).
- Domain: through articles, opinion pieces and discussions on online forums.

- **System-as-is:** by downloading the app and following the guides provided by the publisher.

This allowed us to gain an understanding of the kind of models and main features relating to dating apps.

2. COMPARATIVE STUDY

Through the elications, three real world applications were chosen for the comparative study. These applications are Tinder, Hinge and Bumble.

2.1 Tinder

2.1.1 Description

Tinder is the most downloaded and highest grossing dating app in the US [1], it was the first to utilize the double opt-in feature that's widely used today and incorporate it as it's core mechanism [2][3].This marked a major shift in the online dating scene as before Tinder's launch, the domain was mainly site based with users being able to connect with each other via list based means, whereas Tinder didn't allow users to see most users, which added a sense of enticement and increased the amount of time spent on the app.

2.1.2 Features

- Profile making: Users make their profiles when they first sign up. They can upload photos, write a little description of themselves, add more information like height, job…etc. the app also allows profile editing later on as well.
- Swipe: The most recognizable Tinder feature, it allows users to like profiles by swiping right or swiping left to ignore them, the amount of swipes a free user can do is limited for every 12 hours to limit random swiping. Matches (connecting two users) can only happen when both users swipe right for each other [4].
- Messaging: Tinder allows matched users to interact via a messaging system [5], this was later expanded on to include video chat [6].
- Tinder Gold: is a subscription based service that grants users several premium perks including seeing who swiped right on you, unlimited swipes and other features that boost the user's visibility [7].

2.1.3 Another point

Many have raised concerns over what are perceived to be Tinder's problems, a lot of people don't like how easy it is to pose as someone else and catfish others on the platform. Others also pointed out that limiting swipes limited the matching pool in an effort to boost profits by pushing people towards the paid subscriptions. Finally a lot of older users said that the app favored a younger demographic and wasn't a viable option for those looking for more long term options.Tinder has responded to these criticisms by investing more into online security functions and by recalibrating the matching algorithm and preferences to allow for more compatible encounters.

2.2 Hinge

2.2.1 Description

Hinge is a dating app that launched in 2012 and claims to be "designed to be deleted" as it emphasizes long-term relationships.

2.2.2 Features

- Unique profile making: Similar to Tinder, Hinge users are prompted to create a profile when signing up to the app. Besides cute pictures and basic information like gender, height, sexual orientation, etc; Hinge has an interesting required feature that helps put the personality forward. Prompts, which can be text, video, audio or poll, are a very nice way for other users encountering your profile to get to know you better quickly.

- Facebook integration: Hinge offers an option to connect your Facebook and Instagram account; then it can recommend people you may know and therefore get better matches. Again, Hinge's main purpose is to help find long-term relationships.

- Interacting over swiping: Contrary to popular dating apps like Tinder and Bumble, Hinge does not use the swiping feature. Rather, you can like and comment on

other people's pictures and prompts, just as in Instagram. This is a really good way to enhance interaction before even matching.

- Preferred membership: Without any surprise, Hinge also offers a paid version. The membership starts at $44.99 a month with a possibility to get a discount if paying for 3 months ($82.99 or $27.66/months) or 6 months ($129.99 or $21.66/months). According to reviews, the paid version is definitely worth the cost. This membership allows you to:
    - See everyone who likes you instead of one at a time.
    - Set advanced preferences (like education, family plan, politics, …) so that you can filter your potential matches even more.
    - To send unlimited likes.

2.2.3 Another point

Statiscally, Hinge is known to have way less fake accounts than other dating apps. This can easily be explained by the fact they really put personality upfront - remember the prompts - which makes it difficult to create fake accounts. When creating an account, users are required to create at least 3 prompts. Also, once their account is created, users need to complete their profile by having 6 pictures or videos. Otherwise they won't be visible on the platform and won't be able to match or interact with other users.

2.3 Bumble

2.3.1 Description

Bumble is a dating app where people can swipe left to reject a candidate or swipe right to show that the person is interested [10]. It is focused on challenging the outdated heterosexual dating norms, by giving female users the upper hand when matchmaking on the app. Its main feature allows the female user to make the first contact with the male, if not the match will disappear in 24 hours [8]. Moreover, in same-sex matching, on both ends they can send the message first. The application has 3 modes: Bumble Date, Bumble BFF, and Bumble Bizz [9].

2.3.2 Features

In the dating mode, one of the features allows users to undo accidental left swipes by shaking their phones [10]. Another feature the app provides is it lets the users save some conversations in their favorites, allows them to sort them and send photo messages [10]. In the BFF mode, it uses the same swipe right or left motion and the feature requires that the conversation starts within the 24 hours of matching with a friend [10]. An additional feature that Bumble uses is a photo verification tool to make sure that the profile picture is the holder of the account for safety purposes [10].

2.3.3 Another point

Bumble is the only dating app that has 3 mode features. The feature that is not commonly seen is business mode (Bumble Bizz). This feature allows users to create their professional profile/portfolio of their business and through them, they can create connections with other business accounts to build relations (this feature works like LinkedIn) [11].

3. FUNCTIONAL AND NON-FUNCTIONAL REQUIREMENTS

Our applications must provide certain functionalities for it to stand out against our competitions. We have determined some functional and nonfunctional requirements that our app must have in order to be successful.

3.1 Functional Requirements

- The app must find accurate matches for the users.
- The app must notify users when there is a match.
- The app must let users select an age range.
- The app must indicate how far away a user lives.
- The app must allow a user to select their gender and sexual orientation.
- The app must allow users to change dating mode.
- The app must allow users to join social chats.
- The app must make sure there are no bot accounts.
- The app must make sure that the user behind the screen is who they are trying to be in the app.

3.2 Non-Functional Requirements

- The app must be available on all types of platforms and devices (Windows, Mac OS, IOS, Android).
- The application code must have 80% code coverage.
- The application must use machine learning to generate the best matchmaking solutions.
- The response time of loading static pages should be lower than one second.
- Dynamic features such as blocking, sending a message or notifications should take less than a second to take effect.
- The app must use bot trackers to track fake profiles.
- The application must keep the user's personal information safe.

4. PRODUCT SPECIFICATION

4.1 Social Group Chats

Many times, it is difficult to start an online conversation with no context of what's happening around, since both people are not in the same environment. Online communities can create engagement between users and can ease the "getting to know" phase. This social group chats feature allows users to view a list of different group chats with a specific title such as "sport enthusiasts" or "art and culture." Users are able to join a group chat to discuss the interest stated in the title, and get to know different people with the same interest. Users can also access the profiles of the people in the chat and invite them to chat in private.

4.2 "Looking For" Option Centered Model

One of the main issues with most dating apps is the fact that all types of users are given the same matching parameters and put in the same place. There are many "looking for" categories such as 'friends', 'short term', 'long term', 'don't know yet', etc. We would like to implement different matching algorithms for some of them as it is not very efficient to put all these categories in the same bucket.

For the friends and short term category we would keep it swiping based. Users that are looking for friends and short term do not have the time and dedication to actually go through a big profile. They want something fast. Swiping is perfect for them. They will simply have an overview of the profile and will be able to determine if they like the other or not within seconds. It will be the same case for people in the 'don't know yet' category.

For users looking for something long term, we will use a blind date method. The users will not be able to use the swipe feature. Instead, they will be matched with others based on their profile descriptions, hobbies, etc. The automatically matched individuals will only get to see a portion of the profile in the beginning. As they communicate through the app, each other's profiles will be more and more visible. The matching will be done for a period of time. The users will stay

matched long enough to allow them to fully reveal each other's profiles through communication. Within this period, the users will communicate with each other and see if they are a good fit. Users that choose this category already know what they are looking for and they are serious, therefore, they will be more reluctant to stay patient and go through the discovery process. As the time nears to the end, they will be given a chance to either continue speaking or move on to the next match. If both choses the continue option, they will stay matched. If one of them choses the move on option, they will both move on to the next match. Logically, if both choses to move on, they will move on to the next match. The idea here is to create a sense of seriousness.

All categories will be given an option to report or unmatch immediately. Once unmatched they will have to wait for the remainder of the time to be matched again. Unless, they have a premium account where it will be possible to be matched with another user immediately.

4.3 Chat And Play

Sometimes direct messages can dry up. An ingenious way to spice it up is to incorporate mini games within the messaging system. These games could be of different types such as cooperative games or versus games. Some example games are chess, checkers, uno, glow hockey, skribbl (word guessing game), cards against humanity, what do you meme?, etc. There must be a variety of choices that satisfy different types of people. The games will even allow users to sometimes "break the ice".

4.4 General Features

The app must include some general features such as:

- Ability to change app language.
- Customized profile.
- Automatic "Ice Breaker" suggestions depending on the profile.
- Matching filters.
- Unmatching.
- Blocking.
- Reporting.
- Identity verification.
- Voice chat.
- Pin a chat.
- Delete messages
- Undo a swipe.
- Dark mode.
- Ability to choose an age range.
- Ability to choose a distance range.
- Delete account.
- Ability to choose the gender of the users to be matched with.
- Hide the profile.
- Security & privacy information.
- Ability to cancel subscription.

5. CONCLUSION

To conclude, after reviewing three examples of system-as-is (Tinder, Bumble and Hinge), and using elicitation techniques to observe each application, we established functional and non-functional requirements that a dating application must have, such as finding accurate matches and preventing bots, and to make the application available on all devices. Looking at the features of each application, we determined that the new features to be added in our new app would be to divide the app into a "looking for" centered model, as well as allowing social group chats to be created, and introducing games to conversations.

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