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Design and Implementation

Introduction to Software Engineering

1. Architecture View

   The architectural pattern we are going to use is the Layered Architecture Pattern. This architecture is suitable for our system because our system is not going to be very large and it will not be growing very much. Thus, the scalability of the pattern is of not much concern. Also, because the system will not be growing very large, the performance of the system will stay optimal. Our team is very new and inexperienced, so a straightforward plan will benefit us moving forward. The system being divided into layers allow easy testing and modifications to specific layers without affecting or breaking the rest of the system. The first layer we will have is the Presentation Layer. This layer will be concerned with the User Interface and interactions between the user and the system. The second layer will be the Survey Layer. This layer will be concerned with making the survey and saving the results. The third layer will be the Calculations Layer, which will be concerned with calculating the match compatibility between users. The fourth layer will be the Information Layer, where the databases will be kept as we do not want them interacting directly with other layers.

2. Static View
   Component Diagram

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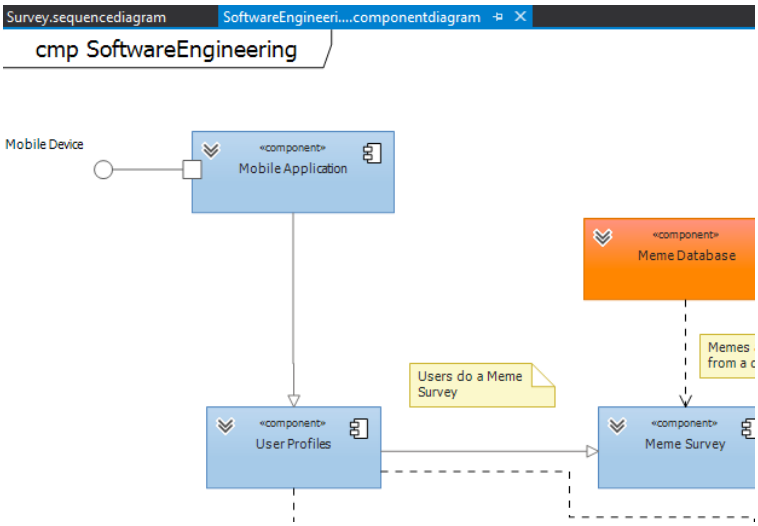

3. Dynamic View

"A meme survey in which the results will be used to find users with similar results" - The Meme

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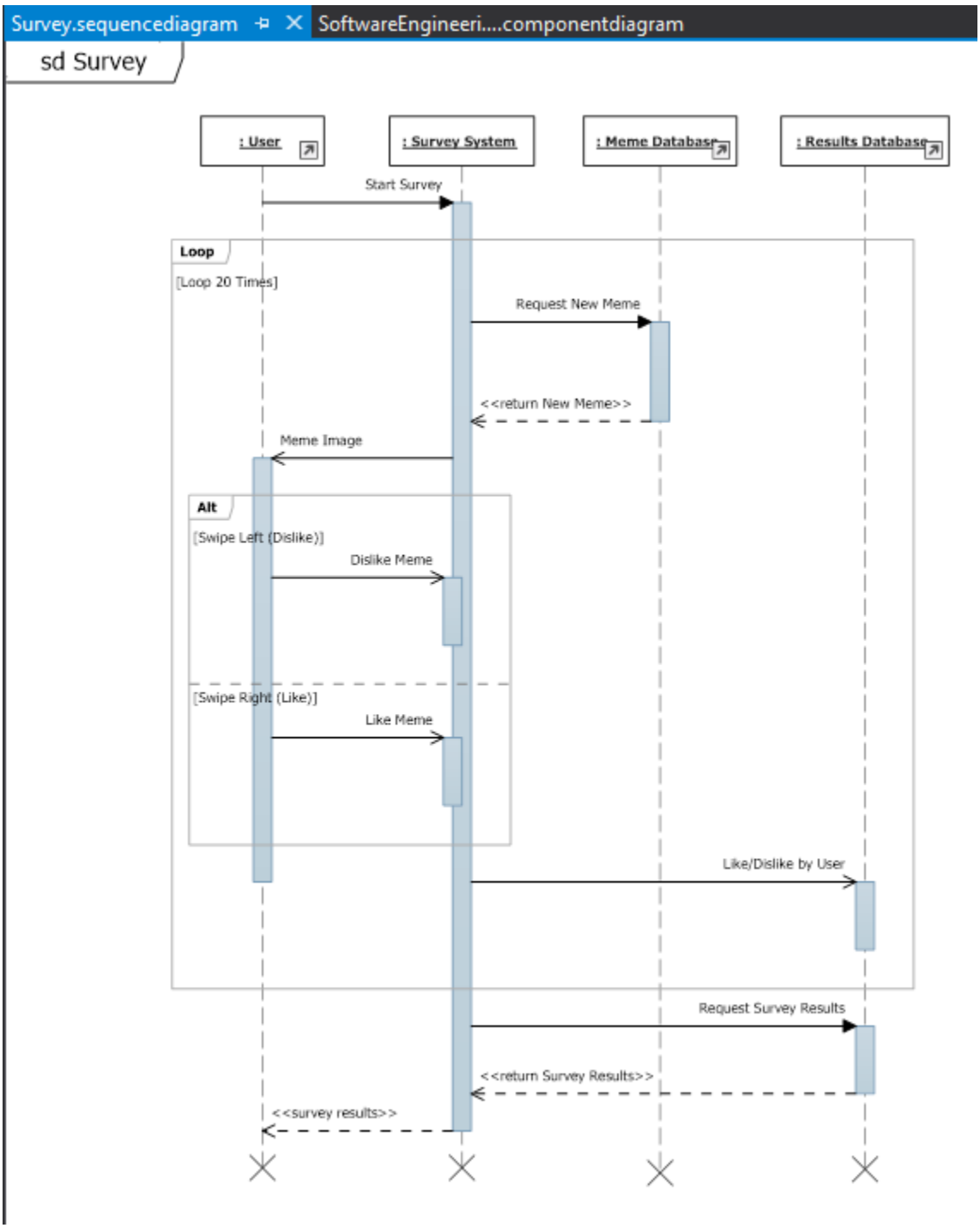
Survey



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4. User Stories Estimations

Using the cards 0, 1, 2, 3, 5, 8, 10, 13, 20, 40, and 100, these values represent the difficulty and time to take to implement.

“As a user, I want to have the option to login using my facebook account so that I do not have to input my profile information manually.”

Evan:	Matthew:	Samar:	Lyndon:	Adam:
10	5	3	3	5

Samar points out, there are already Facebook API’s out there so it shouldn’t take very long to implement.

3	3	3	3	3

The estimate for this user story is 3.

“As a user, I want to see the percentage of compatibility I have with other users to be displayed on their profiles so that I have an easier time determining who I should swipe right on.”

Evan:	Matthew:	Samar:	Lyndon:	Adam:
8	8	8	8	8

The estimate for this user story is 8.

We need to figure out a formula to determine how compatible two users are. There are many different ways to do this so we need to choose the most effective and efficient one.

“As a user, I want a filter to match me with people from the same country that I am in so that my relationships are less complicated.”

Evan:	Matthew:	Samar:	Lyndon:	Adam:
8	8	8	8	8

The estimate for this user story is 8.

Since we do not know how to use the geolocation API, we need to learn something new before implementing it which is why it will take longer.

“As a user, I want to be able to deactivate my account when I no longer need the service so that my profile is no longer visible to others.”

Evan:	Matthew:	Samar:	Lyndon:	Adam:
2	2	2	2	2

The estimate for this user story is 2.

Once we know how to add a user to the users database, deleting an account should be easy to do with one or a few SQL statements.

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“As a user, I want to be able to block or unmatch with other users so they can no longer be able to contact me.”

Evan:	Matthew:	Samar:	Lyndon:	Adam:
10	10	10	10	10

The estimate for this user story is 10.
We would need to store a flag for each profile to see whether that user is blocked which will determine if they are visible or not. If not done correctly, it could take a lot of time to check each user’s flag before loading them.

“As a user, I want to be given the option to chat with another user if we both “liked” each other’s profiles so that we can get to know each other even more.”

Evan:	Matthew:	Samar:	Lyndon:	Adam:
5	5	5	5	5

The estimate for this user story is 5.
We have decided to use Facebook’s Messenger API for the “chat” feature, however since we do not have any experience with this API, it should take time to learn before being able to implement.

“As a user, I do not want to have to spend time learning how to use the app, I want to be able to use it after a few minutes the first time I use it.”

Evan:	Matthew:	Samar:	Lyndon:	Adam:
1	1	1	1	1

The estimate for this user story is 1.
We are designing our app to work very similarly to other dating apps such as Tinder and Bumble, so its controls are going to be very intuitive it users have used those apps. A simple message will pop-up explaining the controls before doing the meme survey which will also help users understand how to use it.

“As a user, I do not want to see images containing inappropriate content.”

Evan:	Matthew:	Samar:	Lyndon:	Adam:
0	0	0	0	0

The estimate for this user story is 0.
Since we are the creators of the app we are not going to post any inappropriate content to begin with.

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5. Technology Stack

Front End

Programming Languages:

- Java
- Java will be used for the programming part of the tech stack simply because we all have previous experience and knowledge in the language.

Frameworks:

- Java
- The idea was originally to make the app multi platform however doing so would have caused us to learn a whole new programming language and the react framework. So we settled on just developing the app for android as the typical programming language used for android apps is Java a language we all have knowledge in as well Java is considered the framework for the application.

Platform:

- Android
- The idea was originally to make the app multi platform however doing so would have caused us to learn a whole new programming language and the react framework. So we settled on just developing the app for android as the typical programming language used for android apps is Java a language we all have knowledge in.

Back End

Programming Languages

- MySQL
- MySQL will be used to create the database part of the mobile app. This database will be used to store user data, location, login information among other things. Since none of the team has any experience MySQL seemed like the most understandable database language to learn and implement in the amount of time estimated for the development of the app.

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6. High-Level plan for multiple Sprints

November 5 - November 18
- Facebook Login
- App structure/design/interface
- Meme database

November 19 - November 30
- Meme survey
- Matching page/percentage

December 3 - December 16
- Location
- Facebook Messenger
- Age verification

December 17 - January 6
- Christmas Break

January 7 - January 20
- Blocking
- Deleting accounts
- User tutorial
- Results database