SWE 3313

# Software Design Document

## *Flock*

*Group #11*

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All members participated equally

a: did his/her share
b: did more than his/her share
c: did less than his/her share (explain if necessary)
d: did nothing

Emmanuel Okafor:**a** Armando Ortiz:**a** Alex Nguyen: **a** Victoria Miller: **a**

**Version: (n)**
**Date: 10/23/2022**

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# 1. INTRODUCTION

## 1.1 Purpose

This software design document will cover the architecture and system design of Flock. This document is intended for the members of the design team to construct the intended software that is Flock.

## 1.2 Scope

Flock will connect twitter users to each other using the data collected from their account. This data will include their likes, retweets, keywords within their tweets, and accounts they follow. The goal of Flock is for users to matchmake depending on their intentions for meeting other users. This will lead to users, overall, having the ability to increase their circle of friends, followers, or even romantically.

## 1.3 Overview

In this document we will provide information on the overall architecture of the app and we will also show diagrams on how the app will work. We will also have a database design and we will show the User interface design both the UI and UX design. All of these components give you an idea on how the app will be organized and how the data that is gathered will be stored and collected.

## 1.4 Definitions and Acronyms

- Retweet: A feature of Twitter that allows you to essentially copy a post made by another Twitter user and post it yourself, allowing you to share the Tweet with your own followers. This feature also credits the original post and user.

- Like: A feature present in Twitter, but found in many social media platforms. A button, denoted by a heart shape on Twitter which found underneath a Tweet, that when clicked allows you to express to Twitter

and anybody else viewing or following you that you “liked”, were interested in, or enjoyed a post.

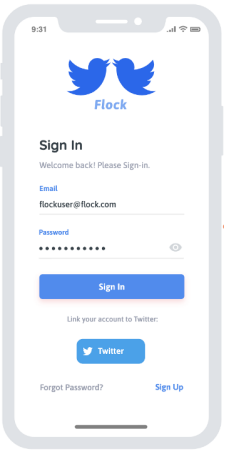
- Follow: A feature present in Twitter and many social media platforms. If you click the “follow” button, located on another user’s account/profile, then you are able to be notified about said user’s various activities. These activities include what they post, what they comment on another post, what they like, who they follow, and what they retweet.

- Social Networking Service (SNS): An online/web-based platform with the purpose of facilitating relationships with other people through same interests, background, communication, or communication. Popular examples include Twitter, Facebook, Instagram, MySpace, and TikTok

- Match: A match in the case of Flock is when a user of the application finds a friend, date, or community on Twitter thanks to the use of the software

# 2. SYSTEM OVERVIEW

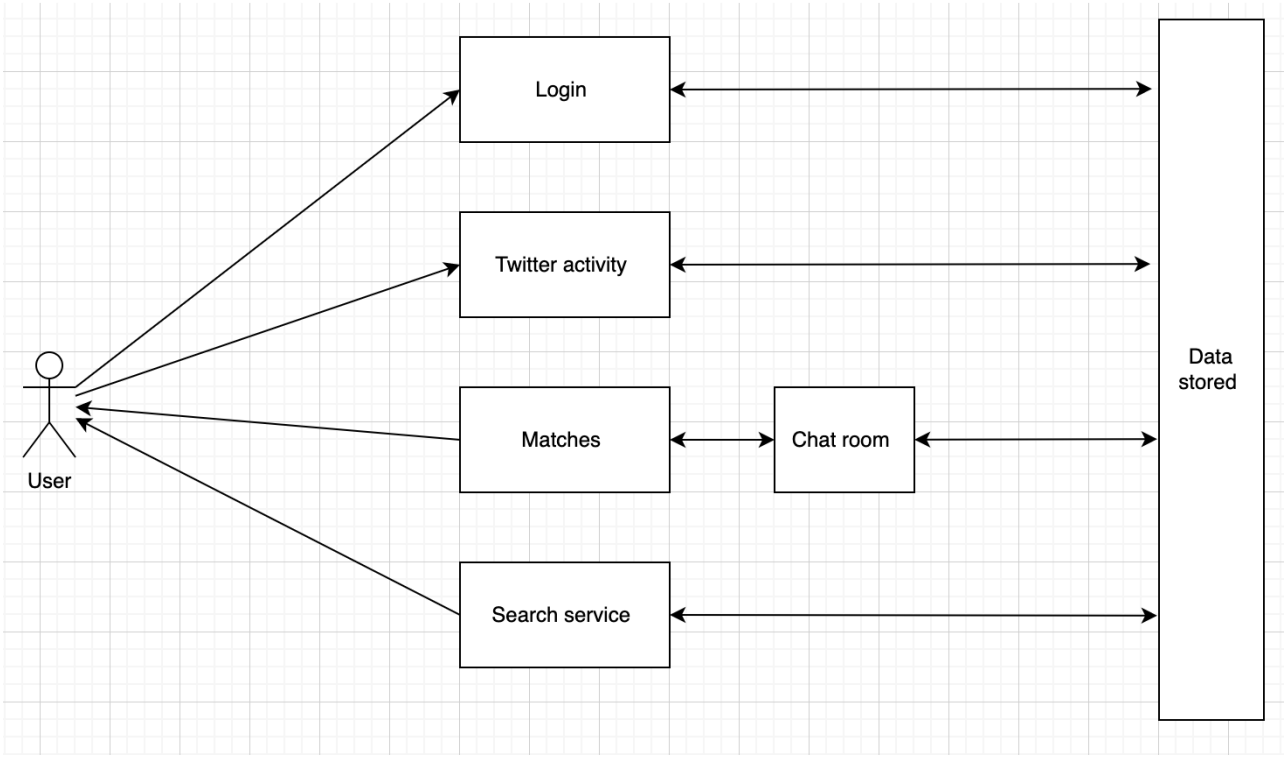
As stated in the Software Requirement Specification Document, Flock is intended to be an application that uses an algorithm to find the interests of twitter users. The app will then use these common interests to be able to connect with other users. The user will be able to choose if they seek to build a friendship, date, or network with other users. People who are in college or at work can find it hard to have time to make relationships, however flock would make it easier since Flock will help you find other people that have similar interests to the user.




The design is simplistic, both in the backend and in the frontend. The UI, as seen to the right, is minimalistic and flows well. The backend is simply structured to allow quick and easy bug fixes and software updates.

# 3. SYSTEM ARCHITECTURE

## 3.1 Architectural Design




In the diagram shown above we have a user and that user will either have to create a Flock account or link their twitter account. Once the User has logged in Flock will go through the users twitter activity and look at the users likes, follows, retweets, and tweets. Then Flock will use the Twitter activity to find similarities in the likes, follows, retweets, and tweets with other users once Flock finds Users that have similar interests then it will match them together and they will be able to chat with each other. Flock will also have a search service where you can search up other twitter users based on the keywords you use on your tweet (if a customer were to say “love dogs” in their Tweet, then Flock must be able to find another user who also tweets “love dogs”). All these functions will be stored in the database in order for users to not lose their matches.

## 3.2 Technical design

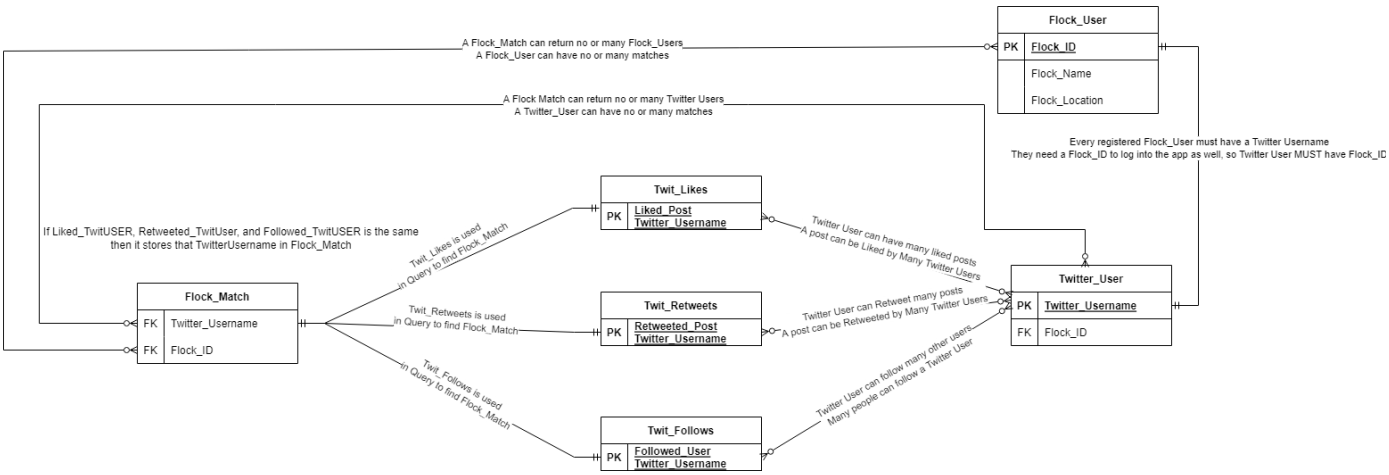
The technologies used involve SQL to store data and Java for back-end development. They are technically designed to function as efficiently as possible.

## 3.3 Design Rationale

We were thinking of having the chat room separate from the matches but in order to have a chat room it requires the user to match with another user, so it's technically part of the matches section. We were thinking of not adding the search service but it is an important attribute to our app and users can use it to find other users with similar interests. Also we planned on using microsoft access but it would not be able to handle the large quantity of data that our application has. On the other hand SQL will be able to handle it. We also are using Java as our main software language since it is the best software language to build an android app.

# 4. DETAILED DESIGN

## 4.1 Class diagrams



## 5. Data (Database) Design

When a customer creates an account their information, such as their name, location and ID to identify them, are stored under the table Flock_User. The customer's Twitter Username is stored under the table Twitter_User. For each Flock account that exists, there also exists a Twitter account, giving them a 1:1 relationship in the database. All of the liked posts from multiple Flock User's Twitter accounts are stored under Twit_Likes alongside the date this action was performed. This is holds true for Twit_Retweets and Twit_Follows as well. Flock_Match creates a query to find a match based on who liked/retweeted/followed the same things as you did from the respective Twit_Likes, Twit_Retweets, and Twit_Follows tables.

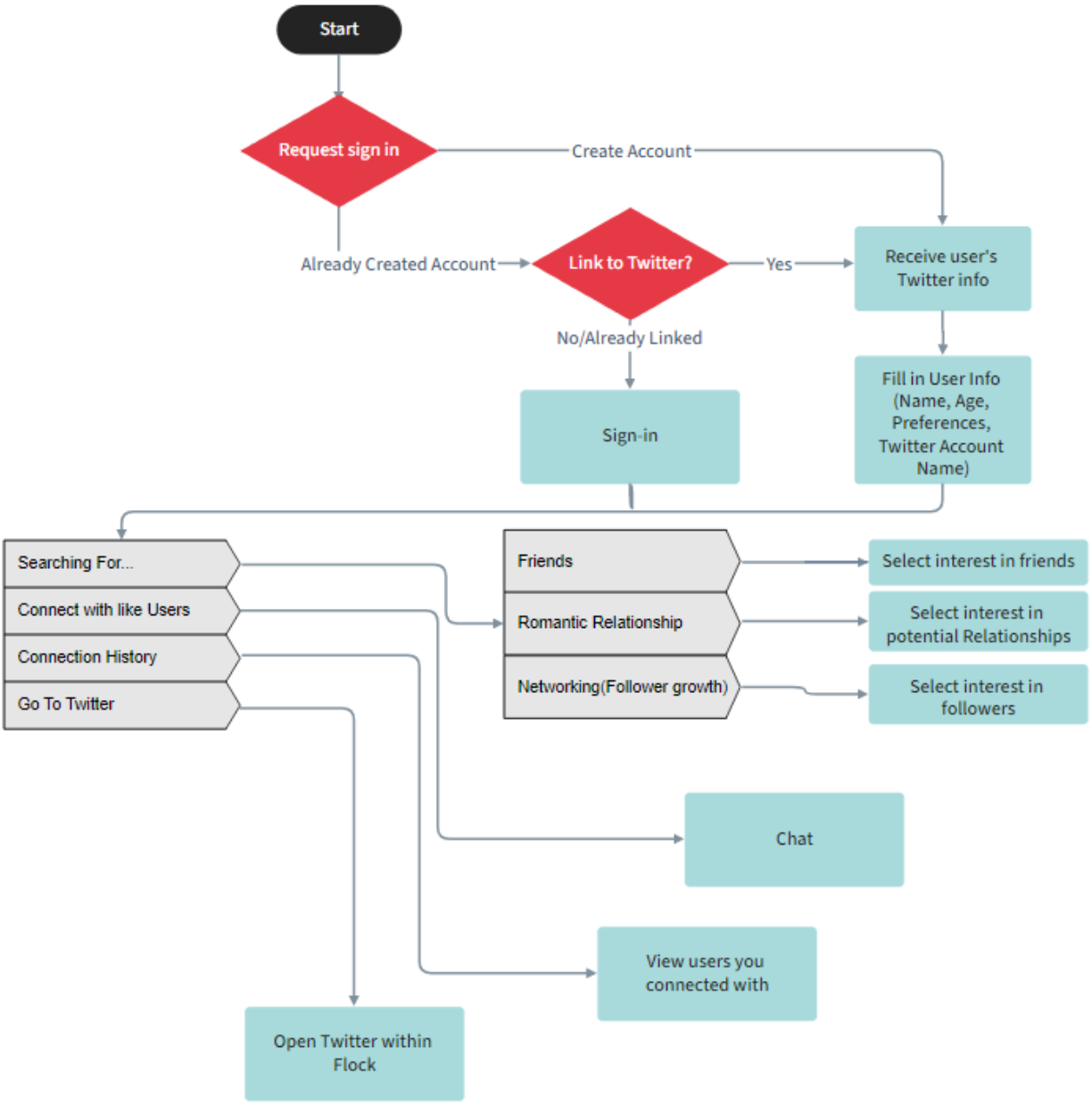
| Table | Table Description |
|---|---|
| Flock_User | The Flock user's account information. Each row represents one user. |
| Twitter_User | Stores information of the Flock user's Twitter account. Each row represents one Twitter User. |
| Twit_Likes | Records information about a liked Twitter post. Each row represents a person that liked a post |
| Twit_Retweets | Records information about a retweeted Twitter post. Each row represents a person that retweeted a post |
| Twit_Follows | Records information about a followed Twitter user. Each row represents a person that followed a user |
| Flock_Match | Defines and maintains the matches of account to account based on Likes, Retweets, and Follows. Each row represents one match. |

| Attribute | Table | Null | Unique | FKey | PKey | Domain |
|---|---|---|---|---|---|---|
| Flock_ID | Flock_User | No | Yes | No | Yes | 10 digit integer |

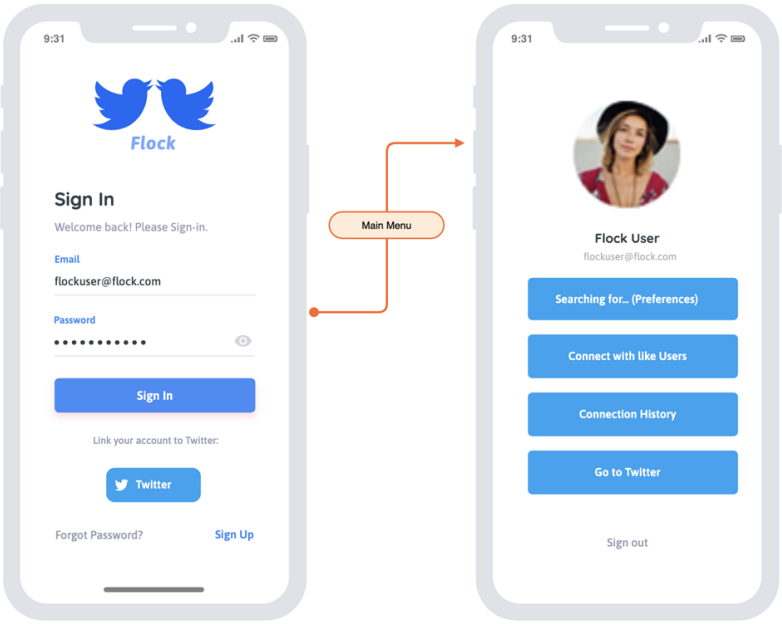
| | | | | | | |
|---|---|---|---|---|---|---|
| Flock_Name | Flock_User | Yes | No | No | No | Character string length 30 |
| Flock_Location | Flock_User | Yes | No | No | No | Character string length 50 |
| Twitter_Username | Twitter_User | No | Yes | No | Yes | Character string length 40 |
| Flock_ID | Twitter_User | No | Yes | Yes | No | 10 digit integer |
| Liked_Post | Twit_Likes | No | Yes | No | Yes | Character string length 30 |
| Twitter_Username | Twit_Likes | No | Yes | Yes | Yes | Character string length 40 |
| Date_Liked | Twit_Likes | No | No | No | No | Date Format MM/DD/YYYY |
| Retweeted_Post | Twit_Retweets | No | No | No | Yes | Character string length 50 |
| Twitter_Username | Twit_Retweets | No | Yes | Yes | Yes | Character string length 40 |
| Date_Retweeted | Twit_Retweets | No | No | No | No | Date Format MM/DD/YYYY |
| Followed_User | Twit_Follows | No | No | No | Yes | Character string length 30 |
| Twitter_Username | Twit_Follows | No | Yes | No | Yes | Character string length 40 |
| Date_Followed | Twit_Follows | No | No | No | Yes | Date Format MM/DD/YYYY |
| Twitter_Username | Flock_Match | No | Yes | Yes | No | Character string length 40 |
| Flock_ID | Flock_Match | No | Yes | Yes | No | 10 digit integer |

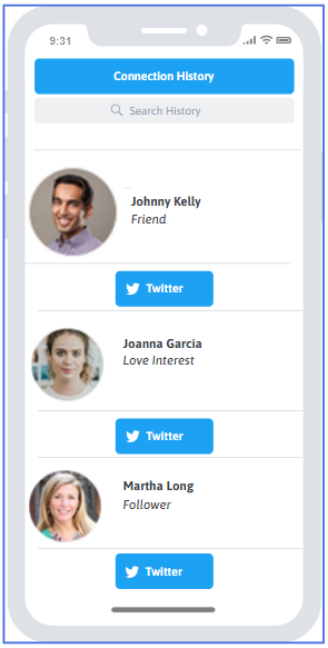
# 6. HUMAN INTERFACE DESIGN

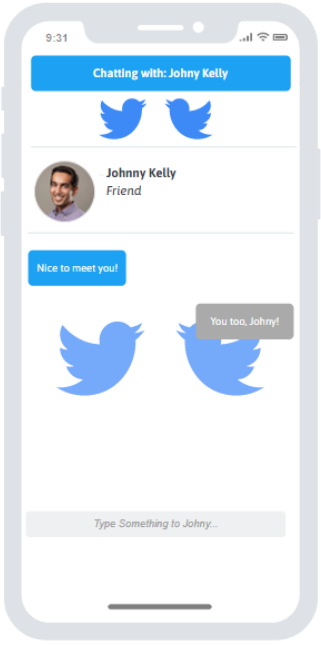
## 6.1 UI design

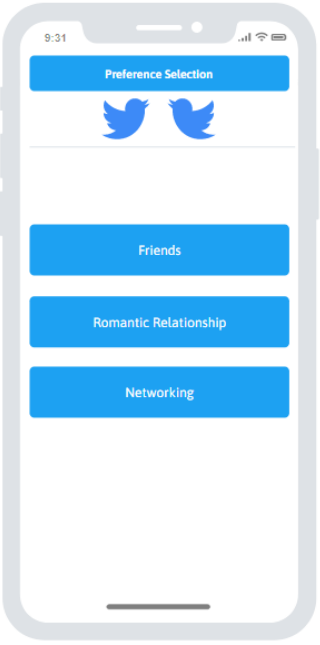


## 6.2 UX design


9:31
Flock
Sign In
Welcome back! Please Sign-in.
Email
flockuser@flock.com
Password
Sign In
Link your account to Twitter:
Twitter
Forgot Password?
Sign Up
Main Menu
9:31
Flock User
flockuser@flock.com
Searching for... (Preferences)
Connect with like Users
Connection History
Go to Twitter
Sign out


9:31
Connection History
Search History
Johnny Kelly
Friend
Twitter
Joanna Garcia
Love Interest
Twitter
Martha Long
Follower
Twitter


9:31
Chatting with: Johny Kelly
Johnny Kelly
Friend
Nice to meet you!
You too, Johny!
Type Something to Johny...


9:31
Preference Selection
Friends
Romantic Relationship
Networking