

# **Thesis Project Portfolio**

## **App Development Using Dart and the Flutter SDK**

(Technical Report)

## **Impact of Anonymity and Partial Anonymity on Social Interaction**

(STS Research Paper)

An Undergraduate Thesis

Presented to the Faculty of the School of Engineering and Applied Science

University of Virginia • Charlottesville, Virginia

In Fulfillment of the Requirements for the Degree

Bachelor of Science, School of Engineering

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Spring, 2022

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## **Sociotechnical Synthesis**

Every social media application has a specific feel and vibe to the content posted by its users, referred to as its app culture. A developer's application design decisions have a direct influence on this app culture. If not taken into consideration, an app can unintentionally facilitate negative relationships between users, or ultimately not carry out its intended function.

The technical thesis involved the development of a social media app in which users anonymously post texts, polls, images and videos to a location based message-board. The app was built using the Flutter Software Development Kit written in the Dart language, giving it the ability to compile into the native IOS and Android languages. The increased popularity of location-based social media apps sparked my interest to provide a means of easy communication within the UVA student body.

The STS thesis explores the impact of anonymity on social interaction by analyzing multiple social media apps of varying levels of user anonymity and with different user guidelines in place to protect against abuse. Through examination of meta-analyses of YikYak, Whisper, Reddit, and 4chan, a connection can be seen between design decisions and the resulting app culture. Anonymous platforms need strong user guideline enforcement techniques to prevent toxic users from abusing the anonymous protection. It's clear that there needs to be a means of accepting reports from the app community, and there needs to be a means of permanently banning people (use of phone numbers to define a user proved to be effective, as acquiring a new phone number requires time and effort).

This paper offers evidence to the importance of design decisions in app development to facilitate the app's intended forms of communication. Future research should expand the study to consider the dark web, and how those extreme levels of offered anonymity lead to the most extreme interactions that occur on the internet today. I would like to give special thanks to Justin Logan for his contributions throughout the development of UVA Media.

