SCU Alumni Connect

Submitted in partial fulfilment of the requirements of the degree of

Master of Science

By

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2023–2024

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CERTIFICATE

This is to certify that the project entitled "SCU Alumni Connect" is a bonafide work of

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submitted to Santa Clara University in partial fulfilment of the requirement for the award of the **Graduate** degree in **Master of Science in Computer Science and Engineering**.

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Project Report Approval for M.S.

This project report entitled "SCU Alumni Connect" by Author Name is approved for the **Graduate** degree of **Master of Science in Computer Science and Engineering**.

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Declaration

I declare that this written submission represents my ideas in my own words, and where others' ideas or words have been included, I have adequately cited and referenced the sources. I also declare that I have adhered to all academic honesty and integrity principles and have not misrepresented, fabricated, or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will cause disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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Amanda Judy Andrade

Date:

ABSTRACT

The current market situation and the disconnect between the alumni and the current students necessitated the need for a strong Alumni Connect program. While the program is one way to build a robust professional network, the means to connect with them, especially for first-generation students, is limited.

This report delves into existing modes of communication and proposes a medium facilitating communication without divulging sensitive information such as phone numbers or personal mail to other users.

The app was successfully deployed on existing mobile platforms, i.e., Android and iOS. Alumni and current students improve the overall college profile by using Flutter and Firebase and relying on existing infrastructure such as SCU Connect and Bronco Exchange.

The only hope remains that many users are introduced to this app through intense promotional college events and faculty encouragement.

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INTRODUCTION

PROBLEM STATEMENT

The lack of a centralised and effective communication platform between alumni and their alma mater has led to missed opportunities for mentorship, professional networking, and knowledge sharing. To address this issue, developing and implementing an alumni connect chat application is crucial. This application will serve as a podium for alumni to connect, engage, and collaborate with each other and the institution. By utilising this chat application, alumni will have access to a robust network of professionals from various industries and fields, enabling them to expand their professional horizons and foster meaningful connections. Additionally, the application will facilitate the exchange of knowledge and experiences between alumni, creating a valuable resource for ongoing learning and development. Overall, the Alumni Connect chat application will play a pivotal role in rekindling alumni engagement and fostering a strong bond between the institution and its graduates.
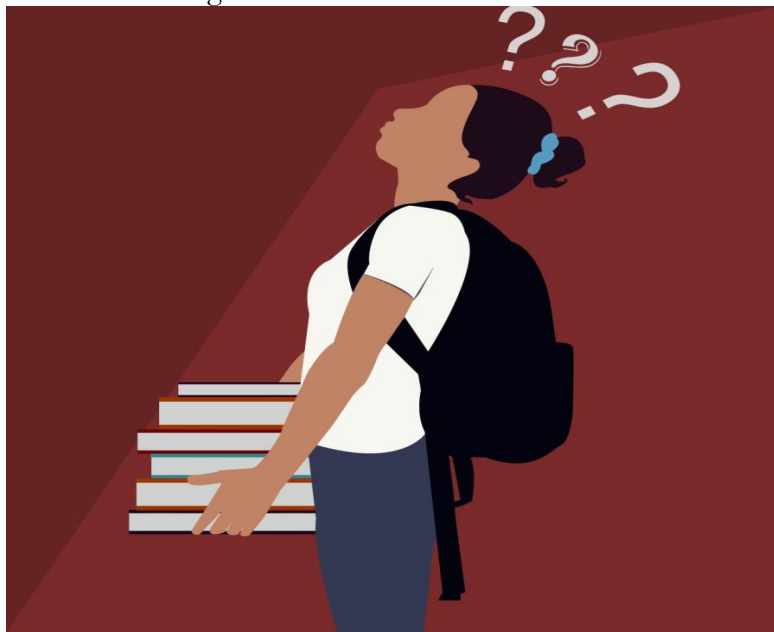

Figure 1: First Generation Student

Key Issues:

1. Limited Networking Opportunities:

- **Challenge:** Graduates often struggle to find networking opportunities within their alma mater's community, hindering their ability to connect with professionals in their field or seek guidance from experienced alumni.
- **Consequence:** Alumni miss potential career advancements, and recent graduates lack valuable insights and mentorship.

2. Untapped Professional Knowledge:

- **Challenge:** There is no efficient system to harness alumni's collective knowledge and experiences, leading to a lack of guidance for current and recent graduates.
- **Consequence:** The absence of a platform for knowledge sharing deprives the community of valuable insights and stunts the professional growth of current students.

3. Ineffective Communication Channels:

- **Challenge:** Traditional communication channels, such as email or social media groups, often prove inefficient for fostering meaningful interactions and collaboration among alumni.

- **Consequence:** Important announcements, networking opportunities, and career-related insights get lost in the noise, diminishing the overall impact of alumni engagement.

4. Limited Access to Job Opportunities:

- **Challenge:** The absence of a dedicated platform makes it challenging for alumni to share job openings within their professional networks, limiting potential career opportunities for fellow graduates.
- **Consequence:** Alumni miss out on potential job placements, and recent graduates lack access to exclusive job opportunities within their alma mater's community.

5. Declining Sense of Community:

- **Challenge:** Without a centralised space for alumni to connect and engage, there is a gradual decline in the sense of community and shared identity among graduates.
- **Consequence:** Institutions lose the opportunity to leverage a strong alumni network for fundraising, volunteer initiatives, and overall community support.

Solution:

An alumni connect chat application is imperative to address these challenges. This platform will provide a dynamic space for alumni to network, share professional insights, mentor the next generation, and contribute to the growth of their alma mater. By fostering meaningful connections, the application will bridge the gap between generations of graduates and create a vibrant, engaged community that thrives long after graduation.

SCOPE OF THE PROJECT

The Alumni Connect Chat Application aims to create a robust and dynamic platform that facilitates effective communication, collaboration, and networking among our institution's alumni community. Recognising the growing need for more robust alumni engagement, the project scope encompasses developing, implementing, and maintaining a feature-rich application.

Key Features

- **Real-time Chat and Messaging:** Secure and real-time messaging system to enable direct communication between alumni members.
- **User Profiles:** Alumni can create and manage personalised profiles showcasing their professional achievements, skills, and experiences.
- **Professional Networking:** Advanced search and filtering options for alumni to discover and connect with professionals in their industry or field of interest.

Benefits:

- Strengthened alumni connections and community engagement.
- Enhanced professional networking opportunities for career growth.
- Increased mentorship possibilities for recent graduates.
- Exclusive job opportunities within the alumni network.
- Improved knowledge sharing and industry insights.
- Sustainable and dynamic alumni community support.

Colleges that have a strong Alumni Program

- University of Pennsylvania
- Arizona State University
- University of California, Los Angeles

- St. Augustine's University
- University of Mary Washington
- University of St. Francis
- Northwestern University
- University of Illinois
- University of California, Berkeley
- Stanford University
- California State University, Los Angeles
- University of California, Riverside
- Duke University (Pratt School of Engineering)
- St. Joseph's University, New York
- University of Colorado Boulder

CURRENT SCENARIO

1st Scenario: People from fraternity societies and 2nd generation students

The contemporary professional landscape is characterised by an intricate web of social connections and networks that play a pivotal role in shaping individual career paths. Individuals possessing solid networks, affiliations with influential groups such as fraternity societies, and backing from influential figures are often positioned advantageously in the job market. This essay delves into the nuanced dynamics of social capital, examining both the privileges and challenges faced by individuals embedded within these influential networks.

The Privileges of Social Capital:

1. **Access to Exclusive Opportunities:** Individuals with robust social capital often gain privileged access to exclusive job opportunities. Networking within elite circles can lead to invitations for interviews, positions, and projects that may not be accessible to the broader job-seeking population.
2. **Accelerated Career Advancement:** Strong networks and influential backers can expedite career progression. Individuals benefit from mentorship, guidance, and sponsorship, propelling them into leadership roles and accelerating their ascent up the corporate ladder.
3. **Influence on Hiring Decisions:** Affiliation with prestigious fraternity societies and influential circles can sway hiring decisions. Employers may be more inclined to select candidates from familiar networks, perpetuating a cycle of advantage for those within influential circles.

Challenges of Social Capital:

1. **Perceived Nepotism and Unfair Advantage:** Individuals with strong networks may face scrutiny and accusations of leveraging connections for personal gain. This perception can erode credibility and hinder genuine recognition of qualifications and skills.
2. **Pressure to Conform:** Members of influential networks may experience pressure to conform to certain expectations and norms within their circles. This conformity, while fostering unity, may limit individual expression and creativity.
3. **Network Dependence:** Overreliance on social capital can lead to a limited exploration of external opportunities. Individuals may find themselves confined within their networks, potentially missing out on diverse experiences and perspectives.

Financial Outcomes and Income Generation:

1. **High Earning Potential:** Members of affluent networks and influential circles often enjoy higher earning potential. Access to lucrative opportunities, negotiations facilitated by strong backers, and insider knowledge contribute to elevated income levels.

2. **Investment Opportunities:** Social capital opens doors to exclusive investment opportunities. Individuals within influential networks may gain access to early-stage investment options, contributing to wealth accumulation beyond traditional income sources.
3. **Income Inequality and Social Disparities:** The advantages associated with social capital can exacerbate income inequality. Individuals without access to influential networks may face barriers to entry, perpetuating social and economic disparities.

In conclusion, this illuminates the intricate dynamics of social capital within employment and income generation. While the privileges of strong networks, fraternity affiliations, and influential backers are evident, the challenges and potential pitfalls underscore the need for a nuanced examination of these dynamics. This research contributes to the broader discourse on social capital, offering insights into how these dynamics shape individuals' professional trajectories and financial outcomes within influential networks. The findings of this study pave the way for further research and policy considerations aimed at fostering a more equitable and inclusive professional landscape.

2nd Scenario: People belonging to the 1st generation students

First-generation students, the first in their families to pursue higher education, embark on a journey fraught with challenges beyond the classroom. While their tenacity and determination are commendable, these students often face complex difficulties that impact their academic success and present formidable hurdles in securing stable employment and generating income after graduation.

Challenges in Higher Education:

1. **Navigational Hurdles:** First-generation students encounter difficulties navigating the intricacies of the higher education system. From understanding financial aid processes to selecting courses, they often lack the familial guidance that others may take for granted.
2. **Financial Strain:** Financial constraints weigh heavily on first-generation students. Many must contend with the dual challenges of tuition fees and the opportunity cost of not contributing to family income during college.
3. **Limited Access to Resources:** Resources like textbooks, laptops, and study materials may be limited. This lack of resources can hinder academic performance and exacerbate feelings of isolation.
4. **Cultural and Social Adjustment:** First-generation students may struggle with cultural and social adjustment on campus. They may feel like outsiders, grappling with a sense of imposter syndrome as they navigate unfamiliar social dynamics.

Difficulties in Securing Employment:

1. **Limited Professional Networks:** The absence of a family history in higher education often means a lack of established professional networks. This can hinder job searches, as first-generation students may not have access to the same job referrals or internships as their peers.
2. **Resume Disparities:** First-generation students may face challenges in developing competitive resumes. Limited access to internships and extracurricular activities can result in a resume gap that may affect their marketability to employers.
3. **Interviewing Challenges:** Navigating the professional world and acing job interviews can be particularly challenging. The lack of exposure to professional environments may leave first-generation students less prepared for the expectations of the job market.
4. **Financial Constraints Post-Graduation:** After graduation, first-generation students may face financial pressures, especially if they have student loan debt. The urgency to secure employment quickly may lead to accepting job offers unaligned with their career goals.

Generating Income

1. **Entry-Level Salary Disparities:** First-generation students may enter the job market with lower starting salaries than their peers. This wage gap can persist throughout their careers, impacting their overall income and financial stability.

2. **Entrepreneurial Challenges:** Pursuing entrepreneurial endeavours is an option for some first-generation graduates. However, limited access to capital, mentorship, and business networks may hinder their ability to establish and grow successful businesses.
3. **Family Support Expectations:** There is often an expectation from family members for first-generation graduates to contribute to family finances immediately. This expectation can place additional stress on securing a job quickly and earning a sustainable income.

The challenges first-generation students face extend beyond their academic journey and significantly impact their ability to secure stable employment and generate income post-graduation. Addressing these challenges requires a comprehensive approach, including targeted support in higher education, mentorship programs, and initiatives to bridge the professional networking gap. By recognising and addressing these difficulties, institutions and employers can contribute to first-generation graduates' success and upward mobility, fostering a more equitable and inclusive landscape for all.

NEED FOR THE PROPOSED SYSTEM

First-generation college students embark on a journey that transcends the bounds of personal achievement; they are pioneers, breaking through barriers and forging pathways into higher education that often were uncharted within their families. While these students exhibit resilience and determination, they face unique challenges beyond the classroom. An Alumni Connect Chat Application emerges as a transformative solution to address the specific needs of first-generation students, providing a supportive network that goes beyond graduation and contributes to their sustained success.

Challenges Faced by First-Generation Students:

First-generation students often encounter a distinctive set of challenges throughout their academic journey. These challenges may include:

1. **Navigating Unfamiliar Terrain:** First-generation students lack familial guidance on the intricacies of higher education, making it challenging to navigate academic processes, financial aid, and career planning.
2. **Limited Professional Networks:** The absence of family members with a higher education background translates into a limited professional network. These students may struggle to access mentorship or internship opportunities crucial for career development.
3. **Financial Pressures:** Financial constraints are often heightened for first-generation students, making it difficult to access resources such as textbooks, workshops, or extracurricular activities that enhance the overall college experience.
4. **Cultural and Social Adjustment:** Navigating a new cultural and social environment can isolate first-generation students. A lack of familiarity with campus culture may impact their ability to build a social support system.

The Role of Alumni Connect Chat Application:

An Alumni Connect Chat Application is a transformative bridge, connecting first-generation students with a supportive alumni network who have navigated similar challenges and triumphed in their academic and professional pursuits.

1. **Mentorship Opportunities:** The application facilitates mentorship programs, enabling first-generation students to connect with alumni with similar backgrounds and experiences. This mentorship provides invaluable guidance on academic success, career choices, and personal development.
2. **Networking for Career Advancement:** First-generation students often lack access to professional networks. The application's networking features empower them to connect with alumni who can offer insights, internship opportunities, and career advice, enhancing their prospects in the job market.

3. **Financial Guidance:** Alumni who have overcome financial challenges can share practical advice on budgeting, accessing financial aid, and finding resources to alleviate financial pressures. This guidance can significantly impact the financial well-being of first-generation students.
4. **Emotional Support:** The chat application fosters a sense of community, connecting first-generation students with alumni who understand the emotional challenges of being pioneers in their families. This support network can ease feelings of isolation and imposter syndrome.
5. **Cultural and Social Integration:** Alumni, especially once first-generation students, can offer insights into cultural and social integration on campus. This guidance is instrumental in helping current students navigate the complexities of college life.

An Alumni Connect Chat Application emerges as a beacon of support for first-generation students, addressing their unique challenges and providing a roadmap for success. By connecting with alumni who have walked a similar path, these students gain access to a wealth of knowledge, mentorship, and networks that can significantly impact their academic and professional trajectories. As we strive for inclusivity and equity in higher education, implementing such an application is a testament to our commitment to empowering every student, regardless of their background, to reach their full potential. By fostering these connections, we elevate individual success and contribute to our academic community's strength and resilience.

SUMMARY OF THE RESULTS / TASK ACCOMPLISHED

Developed a prototype of the Alumni Chat App for iOS and Android mobile Platforms. Users can search for users registered on the database. Login is through the SCU Account. Since users can only log in using SCU Accounts, ensuring the inclusivity and privacy promised, unlike other platforms. The only things visible to other users when they view profiles are the profile photo, name, and email ID. Since the authentication is SCU Google Account, an individual's private and sensitive information isn't divulged.

LITERATURE REVIEW

SUMMARY OF THE INVESTIGATION OF EXISTING TECHNOLOGY

The investigation delves into the suitability of various communication platforms, including WhatsApp, Discord, Telegram, email, and text messages, for academic graduate research interactions with alumni. Each platform is assessed for its advantages and limitations in maintaining formality, supporting document collaboration, ensuring security and privacy, facilitating threaded discussions, managing time zone challenges, and preserving academic records. The analysis reveals that while these platforms offer convenience in different ways, they all present significant drawbacks when applied to the nuanced and professional requirements of academic research communication at the graduate level.

The investigation emphasises the need for alternative platforms better suited to scholarly communication's complexities and demands. It suggests that researchers and institutions may find it imperative to explore more specialised tools to enhance the quality, efficiency, and security of collaborative research endeavours.

Additionally, the study explores the potential benefits of informal meetings and personal gatherings within private fraternity societies for academic graduate research interactions with alumni. It highlights the advantages of establishing personal connections, fostering open discussions, encouraging mentorship, networking in a relaxed environment, enhancing social dynamics, catalysing collaboration, and fostering a sense of community. This approach is a unique and advantageous dimension to academic graduate research interactions, providing benefits beyond traditional formal settings.

However, a significant note is added at the end, recognising the limitations of such informal approaches for first-generation students who may face challenges connecting due to differing social backgrounds. This acknowledges the importance of considering individuals' diverse needs and experiences within the academic research community.

COMPARISON BETWEEN THE EXISTING TOOLS

SCU Connect (formerly NimbuPani)

A few Indian International students developed the site SCU Connect to inform students regarding on-campus jobs, hot subjects and Indian Community events. However, the site is stagnant as it was maintained while the developers were students and now have graduated.

When sites are maintained and regulated by the college, there is a better response and feedback rate, and more students are ready to use them frequently.

Again, this app was only promoted between a certain group or ethnicities of students, so it can't handle the network nor reach as it is dealt with by a group of 3 students on the backend. This site only focuses on connecting mentors for academic purposes only. It hasn't covered the workforce aspect. Also, the developers do not guarantee the response from the assigned mentor to users.

BroncoExchange

An alumni program app created by SCU mimicking LinkedIn, however, yields a low response rate as it only stores Alumni mail IDs and the alumni aren't given a hands-on demonstration of the app. There hasn't been enough propaganda for the said application, which doesn't yield results. Most users aren't aware that someone has contacted them through BroncoExchange.

WhatsApp

WhatsApp [1], a popular instant messaging application, has become ubiquitous for casual conversations and informal communication. However, its utility in the context of academic graduate research

communication with alumni warrants scrutiny due to several inherent disadvantages that may compromise the quality, depth, and professionalism of such interactions.
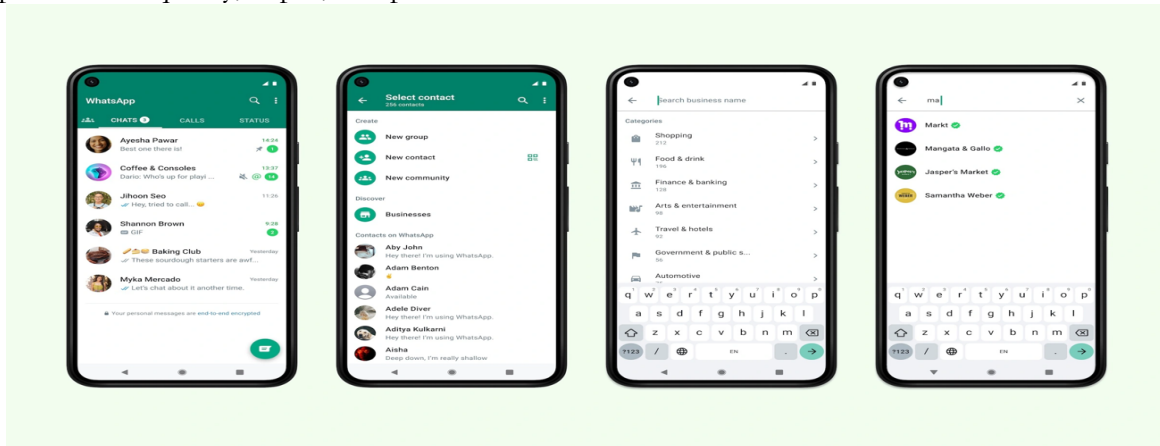

Figure 2: WhatsApp UI View

1. **Lack of Formality and Professionalism:** WhatsApp, designed for rapid, informal communication, lacks the formality required in academic and graduate research discourse. The platform's casual nature may inadvertently undermine the seriousness and professionalism expected in scholarly discussions, potentially diminishing the gravity of the subject matter.
2. **Limited File-Sharing and Document Collaboration:** In the realm of academic research, collaboration often involves the exchange and review of substantial documents, manuscripts, or datasets. WhatsApp's limitations in file-sharing and collaborative document editing hinder the seamless exchange of scholarly materials and impede efficient collaboration between researchers and alumni.
3. **Security and Data Privacy Concerns:** Academic research often involves exchanging sensitive information, including unpublished findings and intellectual property. WhatsApp's data encryption policies and potential vulnerabilities raise concerns regarding the security and privacy of academic discussions, posing risks to the confidentiality of research endeavours.
4. **Difficulty in Threaded Discussions:** WhatsApp conversations' linear and non-threaded nature can lead to confusion in complex academic discussions. In academic research, where multiple aspects of a topic may be explored simultaneously, the lack of threaded discussions hinders the organisation and coherence of collaborative conversations.
5. **Time Zone and Availability Challenges:** Graduate research often involves participants from diverse geographical locations and time zones. WhatsApp's real-time nature may create challenges when attempting to schedule and conduct synchronous discussions, potentially causing delays and difficulties in coordinating collaborative efforts across different time zones.
6. **Limited Integration with Research Tools:** Modern academic research often uses specialised tools, platforms, and software. WhatsApp's limited integration capabilities with educational research tools may hinder seamless collaboration and impede the effective utilisation of cutting-edge technologies in research discussions.
7. **Preservation of Academic Records:** Academic research demands meticulous record-keeping for accountability and future reference. WhatsApp's ephemeral nature, where messages are subject to deletion or loss, raises concerns about the long-term preservation of academic discourse, potentially compromising the integrity of research documentation.

While WhatsApp excels in facilitating informal communication and quick exchanges, its limitations become pronounced in the context of academic graduate research interactions with alumni. The platform's informality, file-sharing constraints, security concerns, and lack of integrative features pose substantial challenges in maintaining the professionalism, efficiency, and depth required for meaningful academic discussions. Researchers and institutions engaging in graduate-level academic discourse may find it imperative to explore alternative, more robust platforms tailored to the complexities and requirements of scholarly communication.

Discord

Discord [2], a popular communication platform originally designed for gamers, has gained popularity for its adaptability in creating online communities. However, its utility in the context of academic graduate research communication with alumni deserves scrutiny due to several inherent drawbacks that may impact the professionalism, organisation, and security of such interactions.
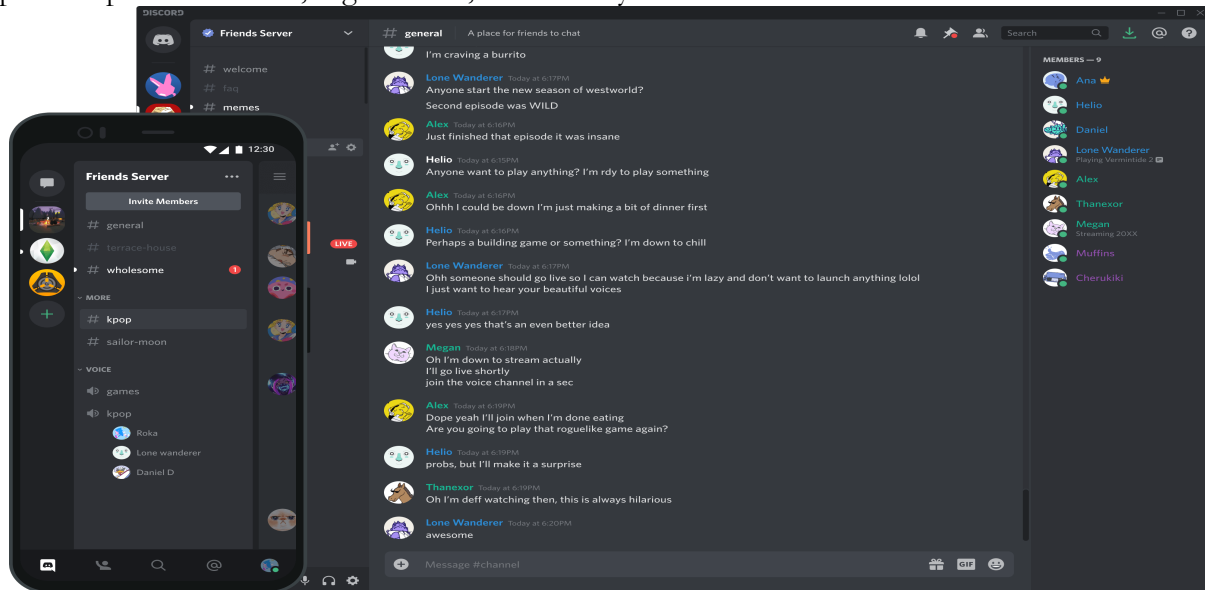

Figure 3: Discord

1. **Lack of Formality and Academic Tone:** Discord's origins in gaming and casual communities may make establishing and maintaining the formal and academic tone required for graduate-level research discussions challenging. The platform's interface, emojis, and colloquial features might be perceived as informal, potentially undermining the gravity and professionalism expected in academic discourse.
2. **Limited Document Collaboration Features:** In academic research, collaboration often involves exchanging, editing, and feedback on substantial documents. Discord's limitations in collaborative document editing and file-sharing capabilities may impede the seamless exchange of scholarly materials, hindering the efficient collaboration between researchers and alumni.
3. **Security and Privacy Concerns:** Academic research often involves the exchange of sensitive information, including unpublished findings and intellectual property. Discord's data privacy policies and potential security vulnerabilities raise concerns about protecting confidential academic discourse, potentially compromising the integrity and confidentiality of research endeavours.
4. **Potential Distractions and Off-Topic Discussions:** Discord's design encourages real-time interaction and engagement through various channels. While this benefits community-building, it may lead to distractions and off-topic discussions in academic contexts. Maintaining focused and scholarly discussions may become challenging within the platform's dynamic and multifaceted environment.
5. **Lack of Threaded Discussions:** Complex academic discussions often involve multiple threads of conversation that need to be organised and followed coherently. Discord's lack of threaded discussions may result in confusion and difficulties in maintaining structured conversations, particularly when addressing multifaceted research topics.
6. **Time Zone and Availability Challenges:** Academic research collaborations often span across diverse geographical locations and time zones. Discord's real-time nature may pose challenges when attempting to schedule synchronous discussions, potentially causing delays and difficulties in coordinating collaborative efforts across different time zones.
7. **Preservation of Academic Records:** Academic research demands meticulous record-keeping for accountability and future reference. Discord's structure, where messages can be deleted or lost, raises concerns about the long-term preservation of academic discourse, potentially compromising the integrity of research documentation.

While Discord excels in fostering online communities and casual conversations, its limitations become apparent in the context of academic graduate research interactions with alumni. The platform's informality, document collaboration constraints, security concerns, and potential for distractions may hinder its effectiveness in maintaining the professionalism and efficiency required for meaningful academic discussions. Researchers and institutions engaging in graduate-level academic discourse may find it imperative to explore alternative, more specialised platforms tailored to the intricacies and requirements of scholarly communication.

Telegram

Telegram [3], recognised for its encrypted messaging and group chat functionalities, has gained popularity as a communication tool. However, its appropriateness in the realm of academic graduate research communication with alumni warrants scrutiny due to several inherent limitations that may impact the quality, security, and organisation of such interactions.
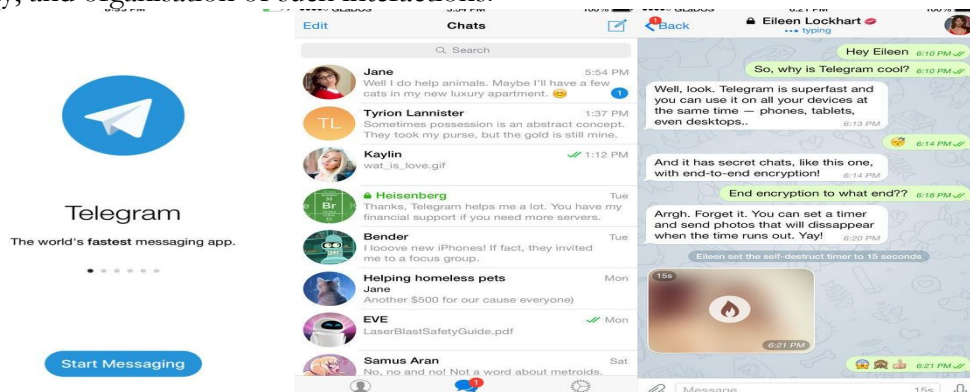

Figure 4: Telegram

1. **Limited Formality and Professional Tone:** Telegram, designed initially for swift and informal communication, may lack the formality required in academic and graduate research discourse. The platform's emoji-centric features and casual interface might inadvertently detract from the seriousness and professionalism expected in scholarly discussions.
2. **Challenges in Document Collaboration:** Academic research collaborations often necessitate the exchange and collaborative editing of substantial documents. Telegram's limitations in document collaboration features and file-sharing capabilities may hinder the efficient exchange of scholarly materials, impeding seamless collaboration between researchers and alumni.
3. **Security and Confidentiality Concerns:** Telegram's emphasis on privacy and encryption is a notable feature, but it raises concerns about the storage and security of academic discourse. The platform's server-side encryption model and potential vulnerabilities pose risks to the confidentiality of research discussions and the protection of sensitive academic information.
4. **Distractions and Unstructured Conversations:** Telegram's design encourages real-time interaction through various channels and groups. While this is advantageous for community-building, it may result in distractions and unstructured discussions in academic contexts. Maintaining a focused and scholarly atmosphere may be challenging within the platform's dynamic and multifaceted environment.
5. **Lack of Threaded Discussions:** Complex academic discussions often involve multiple threads of conversation that need to be organised and followed coherently. Telegram's lack of threaded discussions may lead to confusion and difficulties in maintaining structured conversations, particularly when addressing multifaceted research topics.
6. **Time Zone and Availability Challenges:** Academic research collaborations frequently involve participants from diverse geographical locations and time zones. Telegram's real-time nature may pose challenges when attempting to schedule and conduct synchronous discussions, potentially causing delays and difficulties in coordinating collaborative efforts across different time zones.
7. **Preservation of Academic Records:** Telegram's message retention and storage approach may raise concerns about the long-term preservation of academic discourse. Messages may be subject to

deletion or loss, potentially compromising the integrity and accessibility of research documentation over time.

While Telegram serves as a popular communication platform, its limitations become evident when applied to academic graduate research communication with alumni. The platform's informality, challenges in document collaboration, security considerations, and potential for distractions may hinder its effectiveness in maintaining the professionalism and coherence required for meaningful academic discussions. Researchers and institutions engaging in graduate-level academic discourse may find it essential to explore alternative platforms better suited to scholarly communication's complexities and demands.

Email

Email [4], a ubiquitous communication tool, has long been a cornerstone in professional correspondence. However, its utility in the context of academic graduate research communication with alumni warrants scrutiny due to inherent drawbacks that may impact the timeliness, organisation, and depth of such interactions.
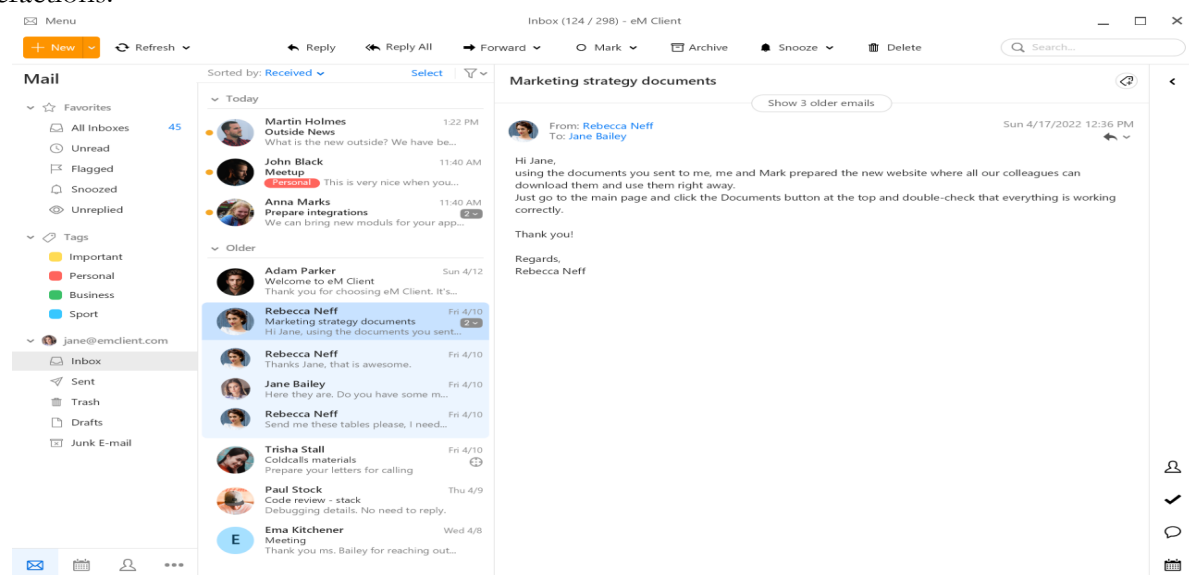

Figure 5: Email UI

1. **Slow Response Times:** One of the primary limitations of email is the potential for slow response times. Academic research often demands timely collaboration and feedback. Waiting for responses via email may impede the pace of communication, particularly when quick decisions or clarifications are required in the dynamic environment of graduate-level research.
2. **Limited Real-Time Interaction:** Email operates asynchronously, making real-time discussions challenging. Academic research often involves nuanced conversations, and the inability to engage in immediate back-and-forth can hinder the depth and efficiency of collaborative discussions with alumni.
3. **Lack of Formality and Tone Nuances:** Email communication lacks the nuances of tone and formality required for complex academic discourse despite its prevalence in professional settings. Expressing intricate ideas or providing constructive feedback may be challenging within email constraints, potentially leading to misunderstandings or misinterpretations.
4. **Challenges in Document Collaboration:** Email's document collaboration features are often limited compared to dedicated collaborative platforms. Sharing and collectively editing substantial documents, a common requirement in academic research may be cumbersome through email, hindering the seamless exchange of scholarly materials.
5. **Security and Privacy Concerns:** Although widely used, emails may pose security and privacy concerns in the exchange of sensitive academic information. The potential for data breaches, especially when sending confidential research findings or unpublished work, raises questions about the security of academic discourse over email.

6. **Difficulty in Organising Threaded Conversations:** Organising and tracking threaded discussions within email threads can become challenging as the complexity of academic conversations increases. Maintaining coherence and structure in multifaceted research discussions may prove cumbersome, potentially leading to confusion.
7. **Overwhelming Inbox:** Academic researchers and alumni may receive a high volume of emails daily. This influx can lead to an overwhelming inbox, making prioritising and managing critical research-related communications difficult. Important messages may get lost in the deluge of daily correspondence.
8. **Preservation of Academic Records:** While emails serve as a record of communication, their organisation and archiving may not be as intuitive as in dedicated platforms. The long-term preservation of academic discourse becomes a concern, potentially impacting the accessibility and accountability of research-related communication.

While email remains a staple in professional communication, its limitations become evident in the context of academic graduate research interactions with alumni. The challenges related to response times, real-time interaction, formality, document collaboration, security, and organisation underscore the need for alternative, more specialised platforms tailored to the complexities and requirements of scholarly communication at the graduate level. Researchers and institutions engaging in graduate-level academic discourse may find it imperative to complement or replace email with more advanced and purpose-built communication tools to enhance the quality and efficiency of collaborative research endeavours.

Text Messages

Text messages, a ubiquitous form of communication in the modern era, are characterised by brevity and immediacy. However, their suitability for academic graduate research communication with alumni requires scrutiny due to several inherent limitations that may compromise scholarly interactions' depth, clarity, and formality.
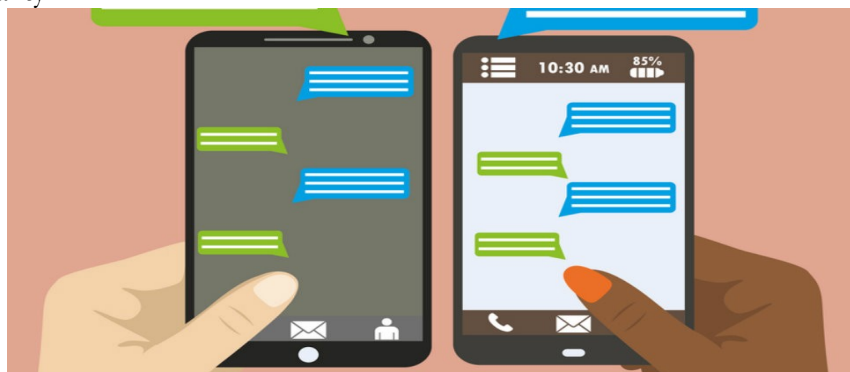

Figure 6: Text Messages

1. **Lack of Formality and Academic Tone:** Text messages are inherently informal and may lack the formal tone necessary for academic discourse at the graduate level. The concise nature of text messages may inadvertently strip away the essential gravity and professionalism expected in scholarly discussions.
2. **Constraint on Content Depth:** The character limit inherent in text messages poses a significant constraint on the depth and complexity of content that can be conveyed. In academic research discussions, where nuanced and detailed explanations are often required, the brevity of text messages may limit the articulation of ideas.
3. **Limited File-Sharing Capabilities:** Academic research often involves the exchange of substantial documents, manuscripts, or datasets. Text messages, with their restricted file-sharing capabilities, hinder the seamless exchange of scholarly materials and impede efficient collaboration between researchers and alumni.
4. **Lack of Document Tracking and Version Control:** Text messages lack the robust tracking and version control features necessary for academic research collaboration. The absence of these features complicates the management of edits, comments, and revisions during the collaborative writing process.

5. **Security and Data Privacy Concerns:** Academic research frequently involves the exchange of sensitive information, including unpublished findings and intellectual property. Text messages may not provide the level of data encryption and security required for safeguarding confidential academic discourse, potentially jeopardising the integrity of research endeavours.

6. **Difficulty in Organizing Threads of Conversation:** Complex academic discussions often involve multiple threads of conversation that need to be organised and followed coherently. With their linear and non-threaded nature, text messages may lead to confusion and difficulties in maintaining structured conversations, particularly when addressing multifaceted research topics.

7. **Lack of Timestamped Documentation:** The ephemeral nature of text messages raises concerns about the preservation of academic discourse. Timestamped documentation of discussions is often critical in academic research, and text messages may not provide a robust mechanism for archiving and referencing scholarly conversations over time.

While text messages excel in facilitating quick and informal communication, their limitations become pronounced in the context of academic graduate research interactions with alumni. The lack of formality, content depth constraints, limited file-sharing capabilities, and security concerns may hinder the effectiveness of text messages in maintaining the professionalism, depth, and security required for meaningful academic discussions. Researchers and institutions engaging in graduate-level academic discourse may find it imperative to explore alternative, more specialised platforms tailored to the intricacies and requirements of scholarly communication.

Informal Meets and Private Connections

Traditional academic settings often focus on formal conferences, seminars, and workshops for research interactions. However, the benefits of incorporating informal meetings and personal gatherings, especially within the intimate atmosphere of fraternity societies and parties, offer a distinct and valuable dimension to academic graduate research interactions with alumni.

Figure 7: Informal Meets

1. **Establishing Personal Connections:** Informal settings allow for the establishment of personal connections between graduate researchers and alumni. Shared experiences, common interests, and informal conversations during fraternity gatherings build rapport, fostering a more genuine and trusting relationship.

2. **Facilitating Open and Candid Discussions:** The relaxed nature of private fraternity parties encourages open and candid discussions. Alumni may feel more at ease sharing insights, experiences, and challenges, creating an environment conducive to deeper and more meaningful conversations than formal academic settings.

3. **Encouraging Mentorship Opportunities:** Informal meetings provide a natural platform for mentorship to flourish. The casual atmosphere allows alumni to offer guidance and advice in a less structured manner, enabling them to share valuable insights and experiences with graduate researchers.

4. **Networking in a Relaxed Environment:** Fraternity gatherings offer a networking opportunity in a relaxed environment. Alumni can connect with multiple graduate researchers informally, creating a

network that extends beyond the confines of formal academic settings, potentially leading to collaborative research endeavours.
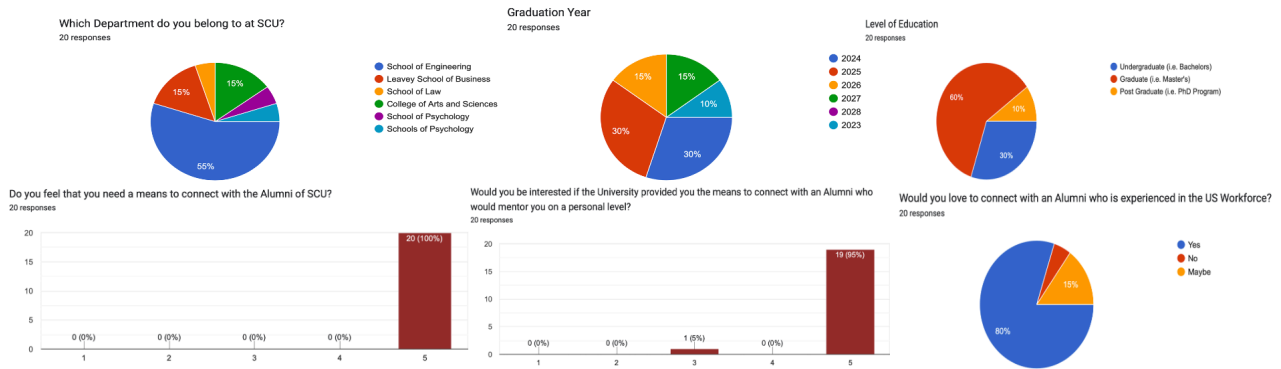
5. **Enhancing Social Dynamics:** Understanding the social dynamics within a fraternity society provides a nuanced perspective on the alumni's experiences during their academic journey. This insight can be valuable for graduate researchers, offering a more holistic understanding of the academic landscape and potential challenges.

6. **Catalysing Collaboration and Research Initiatives:** Informal meetings within the context of fraternity societies may serve as a catalyst for collaborative research initiatives. The camaraderie established in a relaxed setting can spill over into collaborative research projects, leveraging the diverse expertise of both alumni and graduate researchers.

7. **Fostering a Sense of Community:** Fraternity gatherings contribute to the development of a sense of community. Alumni who actively engage with graduate researchers in informal settings foster an inclusive and supportive academic environment, leading to sustained collaboration and a shared commitment to academic success.

In conclusion, leveraging informal meetings and personal gatherings within private fraternity societies and parties presents a unique and advantageous approach to academic graduate research interactions with alumni. By fostering personal connections, encouraging open discussions, providing mentorship opportunities, and enhancing social dynamics, these informal settings contribute to a more holistic and collaborative academic environment. Integrating such informal gatherings into the academic landscape can enrich the graduate research experience, offering benefits extending beyond the confines of traditional formal settings. However, this is only possible if one belongs to a fraternity or high social background. First-generation students often face problems connecting with people due to their differing backgrounds.

ANALYSIS AND DESIGN

METHODOLOGY / PROCEDURE ADOPTED

A survey was conducted amongst students regarding the preference of connecting with the Alumni online, wherein the result was overwhelmingly positive and favouring the Alumni program. Given the current market situation, they were more inclined to join the app.

Figure 8: Survey image demographics

An app was developed in response to these surveys. Since the users wanted an app with fewer distractions and direct communication with the ani, it was created in that manner.

PROPOSED SYSTEM

Hardware Requirements

3 GB RAM
64 GB Hardware

Software Requirements

Android 5 and above
iOS 11 and above

DESIGN DETAILS

The user login is through an SCU Account linked to the Google Server. The account does 2-step verification and asks you to accept the Terms and Conditions while you are registering as a user. Authentication is achieved through Duo.
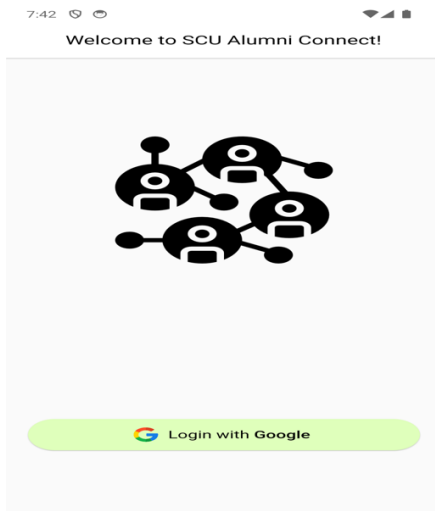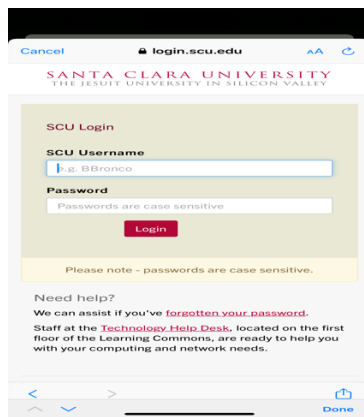
Figure 9: SCU Alumni Connect Login Page
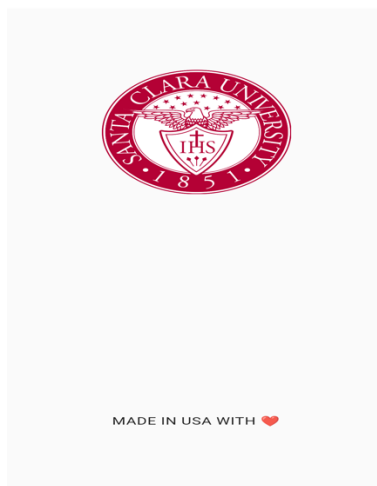

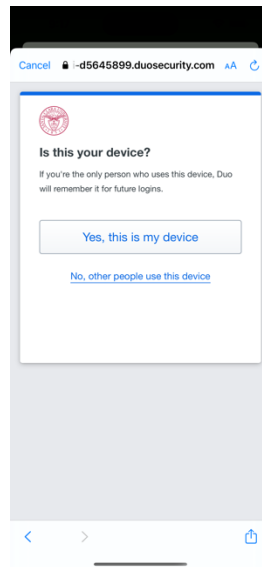*Figure 10: SCU Account Login*

Figure 11: Loading Page

Figure 12: DUO Login Authentication

The home page is a simple UI that WhatsApp had initially without any distractions. The users can be searched using a search bar. All users registered can be searched from the search bar. The chat screen is simple.
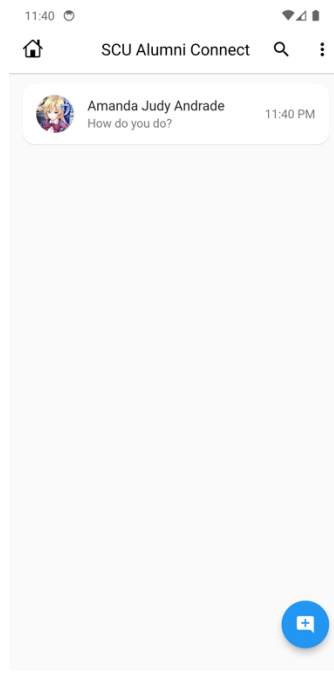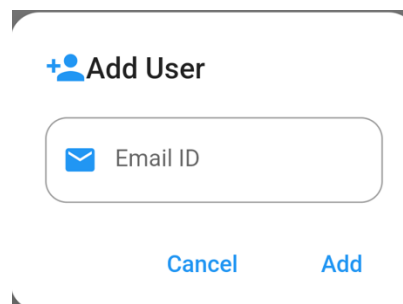

Figure 13: Home Page

Figure 14: Search user

The chat screen is simple, like WhatsApp. The user can share emojis, images, files, etc.
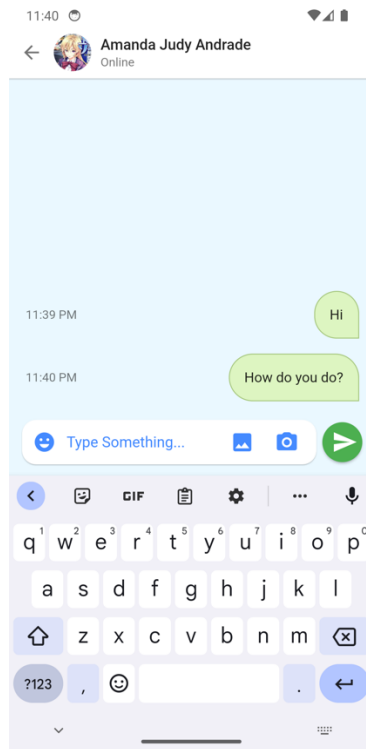
Figure 15: Example of Chat Screen

IMPLEMENTATIONS

IMPLEMENTATION PLAN

The app was deployed on iOS and Android platforms. All the files and images shared are stored on Firebase

Mass Marketing Phase

The app was marketed through ACM-G gatherings and personal outreach to club members and their respective presidents. While there was great favourability towards the app and the program it facilitates, users were sceptical about whether the organisation, i.e. the college, would officially launch the application.

Launch Phase

There are current talks of Launching the app officially in mid-January to February beginning. The developer anticipates high turnover and response rates.

CODING STANDARD

The code's file storage and user management are achieved through Firebase and Firestore, a Google Cloud-based initiative. The code is well-documented in the GitHub Repository.

TESTING

The App was tested on Android and iOS devices and succeeded without any failures.

RESULTS

The app was able to function without any glitches. Many students anticipate using these applications to fully maximise the Mentoring program with SCU Alumni.

There has been a discussion of introducing the app in the ACM graduate division. The developers anticipate that many users will use the app there.

DISCUSSION

Many students about to graduate in Winter 2024 have volunteered to mentor upcoming students as alumni mentors.

FUTURE WORK

The developer anticipates this app will facilitate a more significant movement of Alumni Connect with Santa Clara University. She hopes that many future developers work on this app to make it better and more functionalised to suit and cater to the needs of Generation Z and other generations who belong to SCU as current students or alumni.

Appendix - I

GitHub Repository: https://github.com/aja512/scu_alumni_connect
Firebase Information: https://firebase.google.com/docs
Flutter: https://docs.flutter.dev

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