

Milestone 1

I. Problem Statement

Our team is addressing the challenge that international students face when navigating college life in the U.S., particularly within the Five Colleges area. International students often face difficulties that go beyond typical academic challenges such as finding accurate and community-specific information on crucial topics like housing, visas, job opportunities, academic choices and cultural adjustment. While universities do provide some of this information, they often lack the specificity that students need. Additionally, finding information about life off campus is not usually provided through the administration. It's often more helpful and comfortable to connect with people who have gone through or are currently experiencing similar situations. However, finding and connecting with such people, especially those who share similar cultural backgrounds and interests, can be difficult. This gap leaves international students feeling isolated and unsupported during an already challenging transition.

We believe this problem needs solving because we have seen that these challenges persist for international students, yet universities often don't provide specific support to address them. Furthermore, resources shouldn't be limited to on campus or during school hours. These students should be able to access important information in a centralized location no matter the day of the week. The transition to college is a significant adjustment for all new students but international students face additional challenges in adapting to a new culture while managing their academic responsibilities. For example, international students frequently have to navigate complex housing laws and requirements on their own, often facing difficulties in understanding leases, dealing with landlords or finding suitable accommodation. Another example is when arriving in the U.S., students often struggle to find affordable transportation from the Boston airport to the university. They are also susceptible to homesickness, discrimination and other safety concerns. These types of everyday challenges add unnecessary stress and we feel there's a need for a more interactive solution to support international students.

We want to solve this problem because many of us are international students ourselves or have close friends who have faced these challenges. We understand how overwhelming it can be to navigate life in a new country without specific guidance or support. Every international student deserves the opportunity to thrive in their new environment. Our goal is to create a supportive and interactive community where international students can share their experiences, get personalized help and feel a sense of belonging. The international student community is large but there isn't a platform that truly unites them. We want to utilize this collective strength to help alleviate common problems and make the transition to college life in the U.S. smoother and more enjoyable. Our commitment is to foster a welcoming and safe experience for international students as they navigate their journey in the U.S. By providing comprehensive access to resources and information, we can help international students assimilate more smoothly and achieve academic success.

We plan to create a solution that centralizes important resources in a mobile application for international students. Essentially, our idea is to foster communication between new students and experienced peers, including upperclassmen, alumni and experts. The app's main feature is an interactive discussion board where students can easily exchange information on housing, jobs, course recommendations and more, addressing many of the common challenges international students face. Moreover, we want to include an interactive map that allows users to mark and explore locations important to international students, such as local restaurants, grocery markets, visa service offices and international clubs. Another key feature is the International Information Handbook, a constantly updated collection of relevant resources, including commonly asked questions (FAQs) on crucial topics like visas, cultural adjustment, and campus life. Our solution aims to mitigate the common difficulties international students may face while pursuing an education in the U.S, specifically in Amherst. We want this app to connect not only international students as a whole but students to their specific cultural communities. This app can help boost their academic and social success by creating a sense of community and informing international students about college life.

II. Literature Review

From our literature review, we have discovered many studies analyzing the difficulty for international students from both social aspects and academic perspectives. When studying in a new country and a new social environment, international students typically face challenges including language barriers, cultural shock, homesickness, and discrimination.[2][5][6] Moreover, within an academic context, they also suffer from educational difficulties, such as English incompetence, lack of knowledge of opportunities, and financial constraints.[3][6] Based on these problems, many studies have proposed different approaches to support international students in navigating through their foreign life. One of the most introduced and effective solutions is to build solid network relationships, which can be within the international general body [1], co-national and co-cultural ties [6], and among professors, colleagues, and local community [8]. The enhanced community among international students could facilitate a positive orientation toward the local culture and provide them with a solid support system.[2][8] These findings not only align with the problems we aim to address in our project but also support our goal to build a shared, community-based platform for international students.

In addition, we have also discovered that mobile apps are a feasible choice for the shared platform. Mobile apps can help students develop intercultural competence, an essential aspect for international students navigating cultural differences [1], and international students are also more positive towards mobile apps because of their versatility [4], for example in supporting student mobility [7]. An interesting case study to refer to is WeChat's role in helping Chinese international students navigate their study abroad experience in terms of communication and community building[5]. Functions like "moment" and "group chat" are good references for our app design since they are indicated as the most effective function for community building to spread information and build relationships in the paper. Similarly, from this study we also targeted places that we want to change in our app design. WeChat mainly supports only one language, which should be broadened given that we want to serve the whole international community; WeChat mainly relies on active messaging and users' input to spread information, which differs from our goal to actively provide information for common issues international students might encounter.

Furthermore, research found additional problems that we could consider solving in our implementation through the personas of Luke and Leia [9]. Luke loves going to parties and socializing, and mostly gets

his tips from online discussions or real-life discussions with people he meets. His biggest problem is finding accommodation in Sweden. Leia, on the other hand, is not really social outside of her group of friends, and cannot readily rely on social interaction to get the information she needs. She is a very organized person and likes to have things under control, but she still hasn't managed to do a lot of things because she has trouble finding the information on websites. She needs to get through the process of obtaining a visa which is her main struggle right now. Both of these personas highlight two specific problems, finding accommodations and visa assistance, which we could consider if our surveys confirm their needs. Additionally, both personas find information in different ways. One prefers social interaction (i.e., a message or question board), while the other prefers information from a website (i.e., official resources, FAQ, articles on common topics). Both avenues of presenting information will be important to consider going forward, depending on what personas we can create from our own survey.

Through our review, we have identified how building a community and social platform could be beneficial to facilitate international students' living and learning in a foreign context. However, only one of the papers focused on the actual implementation of such platforms, while others only proposed theories of methods instead of their applications. There wasn't any other work on building these platforms for international students and the practical aspect of similar methods. Our case study, WeChat, also only targets a specific group instead of the whole international community. Therefore, based on the current lack of such practice, we aim to build an online platform for international students in the 5C area, providing a shared space for resource, networking, and community building, as a practice of the societal and behavioral methods introduced in previous literature. This could help prove/disprove the effectiveness of introduced methods and target future research direction into facilitating international students in their foreign study.


III. Personas

We sent out a questionnaire and received 17 responses. Using these insights, we developed two personas. Each persona image is accompanied by a detailed paragraph explaining our analysis.

1. Persona: Ben

Ben is a 19 year old undergraduate student from China. His primary language is Mandarin which he speaks with friends in his study group on campus. As an engineering major his primary concerns are related to finding employment opportunities for international students. He wants to find job listings that accept F-1 visas. He also wants to learn more information about visas and how to apply for internships. However, he is frustrated because the university's resources inadequately address his needs. He often uses social platforms like reddit to find information.

PERSONA: Ben Student



Background

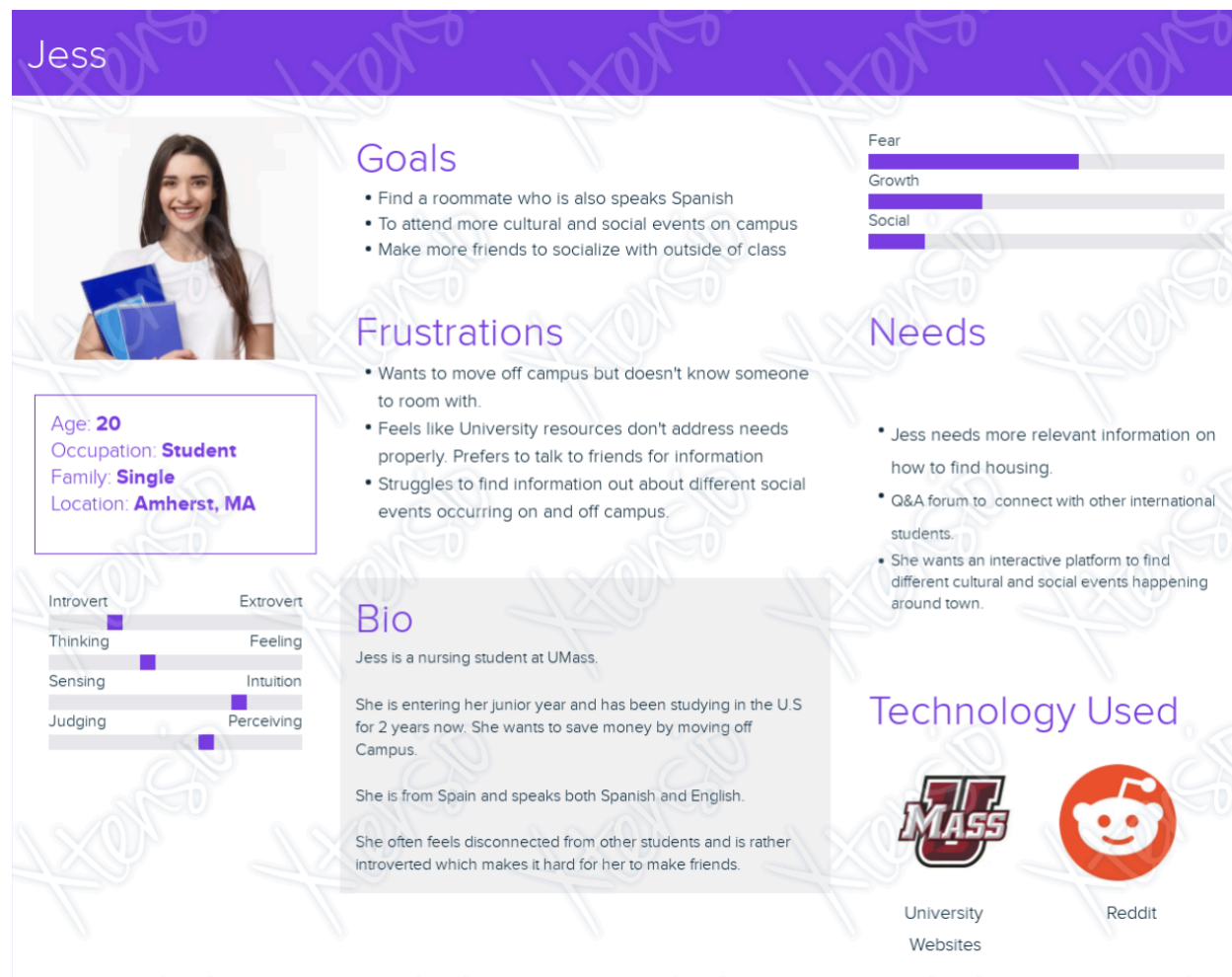
Ben is a Mechanical Engineering student at UMass Amherst. He is a first-year international student and speaks Mandarin and English. His family is from China - but he is hoping to work for a tech company in the U.S. Ben is part of a study group where he meets with other students who speak Mandarin. He enjoys playing video games and frequently plays with other international students he talks with online apps like discord.

Goals

- Secure a summer engineering internship that accepts international students.
- Network with companies that are known to hire students requiring work authorization.
- Obtain permanent residency to remain in the U.S. post-graduation.

Needs

Frustrations



Jess's primary language is Spanish, only having the opportunity to speak it occasionally, which accurately represents that 18% of our respondents said they spoke an Indo-European language (our third largest language group), and 47.1% reported only being able to use their primary language occasionally on campus. Jess struggled to find adequate information about off campus housing and related costs on the university website, matching the 35% of our respondents who reported that finding housing was one of the most challenging aspects of being an international student, and 65% of respondents who felt dissatisfied with current university resources. Jess is also introverted, and primarily wants an online forum to connect with other students. This is because our survey response had 47% of respondents studying in the US for less than years as the primary group who struggled with making cultural or social connections with other international students, and wanted a Cultural/Social events list as a feature for our app. Additionally, 82.4% of respondents overall wanted a Q&A forum to connect with other students. Lastly, Jess currently gets her information from the university website, which matches the 52.9 of respondents in our survey who primarily get their information through the university website.

IV. Functionality

The most important feature of our app is its **Interactive Q&A Sections** that allow users to ask questions and receive answers from verified sources such as alumni, upperclassmen or experts. By leveraging transfer effects from platforms like Slack, Discord and Reddit, where Ben is already active, our app will foster specific discussions on various topics, offering a familiar interface for users to engage in meaningful conversations across different areas of their college life. For Ben, this feature is critical because he is specifically looking for job opportunities that accept F-1 visas and the current university resources are inadequate for his needs. He can ask questions about visa requirements, job postings or residency applications and receive reliable, community-validated responses that address his frustrations. Moreover, there will be a **Job/Internship Postings section** that will allow Ben to search for international-friendly job listings, filtered by companies that sponsor visas and by industry and location, making it easier to find relevant opportunities. For Jess, the Q&A feature would be a great way to get guidance on moving off campus. Being introverted, she prefers connecting online so through this platform, she can find personalized advice from other students about housing. She can ask questions about local housing options and get advice from other students who have already navigated the process. There will also be a **Visa & Legal Support section** that would provide both Ben and Jess with a dedicated space for legal questions, moderated by legal experts or validated through community upvotes. This section offers resources such as blogs, pre-approved guides or FAQ pages on common concerns like OPT, CPT, visa renewal processes or housing leases. This section would make navigating complex legal matters easier by offering reliable information in one centralized location. Altogether, the Q&A feature helps alleviate the frustration of inadequate university resources and provides our users with a supportive network and reliable information from their communities.

Another essential feature of our app is the **Interactive Map** which allows users to tag and explore locations relevant to international students. This feature helps students like Jess, who is looking for affordable off-campus housing, by showing nearby housing options and allowing users to leave reviews or tips. For example, international students can highlight locations where they have found affordable accommodations or places that are friendly to students on visas which make it easier for others to navigate housing in a new country. Furthermore, since Jess is interested in attending more cultural events, the map

can help her discover international clubs or cultural gatherings to help her stay connected with her culture. The map is also helpful to Ben by including key spots like visa service offices that allow him to easily locate resources that support his visa-related needs. As Ben and Jess come from different countries, they each benefit from the ability to find products or foods that resonate with their specific cultures. Whether it is restaurants serving international cuisine, study cafes with a comfortable atmosphere or grocery stores selling familiar products from home, the map helps make their transition to life in the U.S. smoother and more culturally inclusive. With the ability to tag and review locations, users can share personal recommendations which foster a community-driven resource for all international students.

Based on international students' inclination to use their native languages, our app will also have a **chat room based on language and/or region** function that enables users to enter a chatroom that speaks one language or is oriented toward one region's community. The chatrooms can be public or private, and users can choose to either see open chat rooms based on language or region. Everyone can enter the public chat rooms despite their cultural background. For Jess, since she prefers using online platforms to socialize, she can open a public chat room with Spanish and meet students from Spain or others who know Spanish from another country. Similarly, Ben can open a private chat room choosing Chinese and use the space to work and study with friends using native language. Since a chatroom of one language can attract users who speak the same language, and a chatroom of one region might attract people who are interested in one place but not necessarily from there, this function would be a great platform for international students to enjoy environments that are not dominated by English, mix up cultures and languages, and broaden their social circles to a wider community.

Finally, our app will include an **USA Survival Guide for Internationals** function that works as a what-is, why-is, when-to, how-to instructions guidebook that covers miscellaneous things international students might have questions about. This will be a huge collection that includes official, general information like what students visa's restrictions are; helpful but hard-to-find instructions like how to get a car and all relevant properties; and miscellaneous information like slang explanations. Since we aim to gather as much information as possible in this guidebook, our app will allow users to provide suggestions on what they want to learn more about so we can continuously update the survival guide. In addition, our app will also include an AI-engined search function that pops up the most relevant guides in the guidebook for one's specific needs. Ben can easily access full descriptions on requirements to obtain permanent residency here, and Jess can also learn from instructions on how to find and rent houses off campus using this encyclopedia.

V. Participation

1. **Jadyn:** Wrote a few sentences in the problem statement and wrote the paragraph summarizing the high-level description of our solution. Designed the two user personas.
2. **Anna:** Wrote the problem statement, designed the questionnaire, developed two key functionalities and reformatted the milestone
3. **Yuhan:** Conducted most of the literature review and compiled into the first 2 paragraphs; designed the questionnaire; developed the latter two key functionalities; and improved the formatting as well.

4. **Carey:** Researched a relevant source on personas; wrote last paragraph of the literature review; compiled survey responses & performed data analysis; designed framework for two different personas

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