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### **Synthesis Report: Understanding Stakeholder Needs for a Study App (ACE)**

The goal of this synthesis report is to extract key insights and observations from interviews with six stakeholders who will be potential users of our study app. The stakeholders include two competitive students, a student who faces cycles of burn-out, a procrastinating student, and two newly-adjusting students: a freshman and a transfer. Our aim is to uncover their needs, preferences, and challenges to shape the development of our study app effectively.

Angelina, who struggles with cycles of burnout, faces significant external pressures in her life, such as a recent family loss and the necessity to work two jobs while attending school. She emphasizes the stress and time constraints she experiences due to her multiple responsibilities, leading to anxiety about meeting academic deadlines. However, she values her education and strives to do well in her studies. Angelina finds value in features that promote stress management and time optimization. She appreciates the idea of incorporating mindfulness and relaxation features into the app, allowing users to take short breaks during study sessions. She is interested in the planner category with a habit tracker. This feature would help her better manage her time, reducing the last-minute rush to complete assignments.

Stella and Mystery Guy, the competitive students, are driven by their desire for academic success. They both have different approaches to their studies and competition, but their shared goal is to excel. Both Stella and Mystery Guy are motivated by friendly competition. They believe that competing with others can drive them to do better. They appreciate the idea of having driven individuals around them to collectively aim for high academic goals. Stella is particularly interested in features that involve gamification and tracking progress. She enjoys the sense of accomplishment that comes from outperforming the class average and maintaining a high GPA. Mystery Guy values features that provide challenges and milestones on the way to academic success. While both value competition, Stella believes that social aspects like messaging and stories might be distractions. On the other hand, Mystery Guy thinks that seeing others study can be motivational.

Rima, the procrastinating student, has a hard time gaining the momentum to start her schoolwork. She recognizes that starting is the hardest part when it comes to assignments, being distracted by her phone and talking to her friends to distract from the pressure of an upcoming assignment deadline. Rima's friends are very supportive by telling her to get an assignment done instead of socializing, which shows that some students can benefit greatly from the support of their peers. When it comes to studying, she has little-to-no routine and only sees the need to study when her grades are beginning to decline. She finds it useful to have noise in the background, as well as studying in populated areas so the people around her hold her accountable to get schoolwork done rather than slipping into her phone. Rima likes the idea of the social media category, and suggested that we make the app addicting in a way that encourages organization and completing tasks. She emphasizes certain features that are addictive, such as streaks and the layout of the app in particular.

Kim, our newly-adjusting freshman, is a computer science student who is finding the transition to college almost overwhelming. She finds it hard to have everything organized in one place, and was suggesting a calendar right at the beginning of the interview, almost proving that it alone would be extremely useful for her. Currently, she takes things day by day and doesn't write much down; she tends to do homework between classes, and after classes she has an issue of other things taking priority. When asked if a digital to-do list would be easier to consistently use than a traditional pen and paper one, she agreed, adding that most of everyone's work is already digital. Kim wishes she had an older student or mentor to reach out to for guidance, or even links to relevant information related to what she is currently studying. The categories most appealing to her were the planner and social media categories, more specifically the planner, syllabus importing, study buddy, and messaging features. Kim would likely benefit from time management and organization tips as a freshman in STEM.

Anonymous Woman's interview sheds light on the unique challenges and needs of non-traditional students, particularly those who have returned to the academic environment after a significant period of absence. Her motivation to return to school in the United States stems from the desire to communicate effectively with her family and community, interact with healthcare professionals in English, and engage with her children's teachers. As an older student with family responsibilities and housework to manage, she faces the challenge of balancing her academic pursuits with her domestic duties. This highlights the importance of designing an app that can assist in effective time management and organization. She initially struggled with adapting to tools like Canvas and social media. This suggests a need for user-friendly features and tutorials within the app to support users in bridging technological gaps. Language accessibility is crucial for non-native English speakers like Anonymous Woman. She expresses a strong preference for an app with multiple language options to ensure comfort and comprehension.

Richy, a recently-transitioned transfer student, is pursuing a degree in music and encountered difficulties during his transition to the University. His primary frustrations and challenges revolved around the transfer of his credits, managing financial aid, and the lack of transparency in the communication between the financial aid department and himself as a student. He suggests that notifications and an advanced notice from the financial aid office, as well as information regarding necessary credits, should be announced weeks prior to the due dates. Additionally, we emphasize the importance of push notifications for our app. After speaking with Richy, we concur that notifications for assignments or tasks should be provided with sufficient lead time before their respective deadlines.

The category most appealing to Richy within our app would be the study buddy. His experiences show that building relationships with classmates and engaging in collaborative study sessions have enabled him to efficiently prepare for tests while maintaining a balance between his social and academic responsibilities.

Based on these interviews with all of the stakeholders, several insights can guide the development of our study app. We learned more from our stakeholders about what they would and would *not* want: stress management and mindfulness, time management, friendly competition, study buddies and gamification.

**Stress Management and Mindfulness:** Incorporating stress management features, such as mindfulness exercises and short breaks during study sessions, can benefit users like Angelina, who face burnout and stress due to external pressures. It could also benefit Rima, who will struggle once she loses her momentum if not using a study timer with timed breaks. While interviewing at the library, we were able to observe students and what they left behind after their study sessions. One of our observations was that students left drawings on about half of the used whiteboards. We would like to use this information to incorporate a doodle page that pops up during the “break” time of the study timer; ideally this would keep the user in the app to keep their break minimal in time, making it more likely that they will return to studying. We want to acknowledge that the break in studying is an absolute necessity, because it helps to prevent burnout.

**Time Management Tools:** A planner with a habit tracker should be a core feature of the app, as it aligns with Angelina's needs for better time management and reduced stress. Angelina likes the idea of being able to look back and see where her time is going. This is great for users who will use this section of the app, because they are able to find where their time might be going too little or too much, and they are able to tweak their schedules to something that will fit their needs better. It could also help freshmen like Kim, who might not realize they are lacking habits that would reduce stress outside of school, such as exercise, hydration, or sleep. As well as benefiting someone like Anonymous Woman, who is a mother of 4 with a lot of responsibilities.

**Friendly Competition:** Features that promote friendly competition can cater to users like Mystery Guy, who thrive on the motivation derived from outperforming peers and achieving milestones. While competition is a motivator for some, the social aspect of the app should be carefully balanced, as it may not appeal to all users. Some, like Stella, see it as a potential distraction, and should be considered as we move forward with the designing of our app. An experience system that includes a leaderboard, quests, etc. with an option to disable or opt out of the features can cater towards both sides.

**Study Buddies:** The interview with Richy has demonstrated that the establishment of study groups has proven to be effective in improving assignment and exam performance, as well as fostering interpersonal connections. This approach offers students an avenue for collaboration and relationship-building. Furthermore, this initiative has the potential to benefit a diverse range of stakeholders, with a particular focus on those who struggle with procrastination or encounter difficulties in completing assignments or achieving passing grades. This section can be especially valuable and gratifying for such individuals.

**Gamification:** Addictiveness comes in many different flavors, and the form of gaming is a significant one for many. This applies to users of all ages and backgrounds. Not only is it a great way to keep people using our app, but it is truly a great way to learn new things if done right. Between games like Minecraft and apps like Duolingo, there are many different ways of gamifying an app in an educational way. This section partly ties in with friendly competition, but we will continue to keep our non-competitive stakeholders in mind moving forward, so that we can offer a fun experience for them as well that will also be rewarding.