

EXECUTIVE SUMMARY

ARTIFICIAL

OUR TEAM

A team of two students, Amy Chang and Anisha Parsan, who strongly believe in using the power of technology to address social needs.

XPOSURE

A mobile app designed to foster a safe learning environment and lower the risk of COVID-19 exposure in students by actively enforcing social distancing rules in a school setting.

Bluetooth Signaling: Xposure tracks the number and identity of the students that entered in a 6 foot radius of the user, allowing for accurate estimation on risk of exposure.

Symptom Log: Xposure allows users to monitor their symptoms over time to mindfully evaluate whether they may have caught the virus.

We provide schools with seamless access to these services, in hopes of ensuring student safety during the pandemic.

COMPANY DESCRIPTION

OUR MISSION

Team Artificial's mission as a nonprofit business is to limit a user's exposure to COVID-19 and effectively track their symptoms in an attempt to aid school administrators with contact tracing and limit day-to-day interactions in a school setting.

PRODUCT & MARKET

Xposure is an iOS mobile application designed to notify users who have violated the 6 feet social distancing rule.

Currently, close to half the world's students are still affected by partial school closures, leading many children to fall behind in their academic studies. To help, our app is directed towards students who wish to learn in-person in a secure school environment without the heavy risk of being exposed to COVID-19. Xposure aims to keep students aware of their surroundings with the implementation of bluetooth detection, while keeping a daily log of their symptoms, allowing them to mindfully determine whether or not they should stay quarantined to protect other students.

OUR HISTORY

Team Artificial started as two high school students passionate about technology and the various ways it could be used to help the community. During the time of the pandemic and with the right opportunities, Xposure started as a small project to encourage students and peers to be more mindful of their surroundings and prioritize safe learning. We noticed the lack of social distancing enforcement in schools, likely contributing to many students' anxiety about returning to in-person school in hopes of a better education. As students ourselves, we resonated with the issue and decided to dedicate our time towards a finding solution. In hopes of utilizing computer science to assist students in this time of need, we studied Swift's Core Bluetooth functions to implement a notification system on Xposure to signal to users when they have violated social distancing rules.

FUTURE GOALS

In the near future, Team Artificial aims to implement administrator accounts with additional features that provide school principals and other staff members with access to the symptom logs and interaction count for all student users within their school.

PRODUCT DESCRIPTION

OVERVIEW

The mobile application was developed for iOS on Xcode. We utilized Firebase, a backend infrastructure run by Google, to implement a secure login and signup flow. Our core functionality lies in the use of Bluetooth Low Energy signaling to estimate distance between two users through a series of complex calculations. We provide a sleek calendar view for users to log their daily symptoms and track progression over time. We also utilized CocoaPods, a dependency manager based in Terminal, to implement the various frameworks we used in our app.

FEATURES

LOGIN + SIGNUP FLOW

- First-time user begins with a simple sign up page, setting up name, email, and password for a user profile. Second time user quickly logs in with email and password.
- Information is written to a secure, widely-used third party platform
- For further security purposes, password must be at least 8 characters with a number and special character.

HOME PAGE

- Contains details on Xposure's mission, as well as information for users ensuring our adherence to their anonymity and privacy.
- Button to main interface, containing Symptom Log, Dashboard of Interactions and Profile/Settings

MAIN INTERFACE

- Symptom Log: Daily checklist of Center for Disease Control's COVID-19 symptoms.
 - Calendar UI control (FSCalendar framework) allows for user to click into various dates and view their inputted symptom log.
 - Submit Positive Case button sends user to form confirming they have tested positive, useful for later contact tracing purposes
- Dashboard of Interactions: UI interface of user interactions tracked with BLE code (within 6-foot of another user = 1 interaction)
 - When one user enters within 6-feet of another, a banner notification will appear onscreen
 - Count of daily interactions, weekly summary graph, all time interactions graph
- Profile and Settings
 - Display profile picture, username, and name
 - Password Reset form
 - Logout button

MARKET ANALYSIS

MARKET & KEY COMPETITORS

There have been few social-distancing related apps released on the market, with goals of usage in the general population; however, none have focused specifically on creating a product for use in school settings, where transmission rates may be exceptionally high due to close quarters. Social distancing is crucial in reducing viral infection within learning environments, for the safety of students and their families. Xposure seeks to address this key gap in the market, while also offering numerous avenues for expansion and future development into areas that would benefit our target market.

One major weakness in competing apps is that they do not offer various important features, such as a COVID-19 symptom tracker customized in accordance with CDC's guidelines, as included in Xposure. Since the market has not seen an implementation of both advanced BLE social distancing technology and a symptom tracker in one app, Xposure is unique and therefore applicable in a wider array of environments beyond school settings (e.g. corporate, daily life).

COMPETITOR ANALYSIS

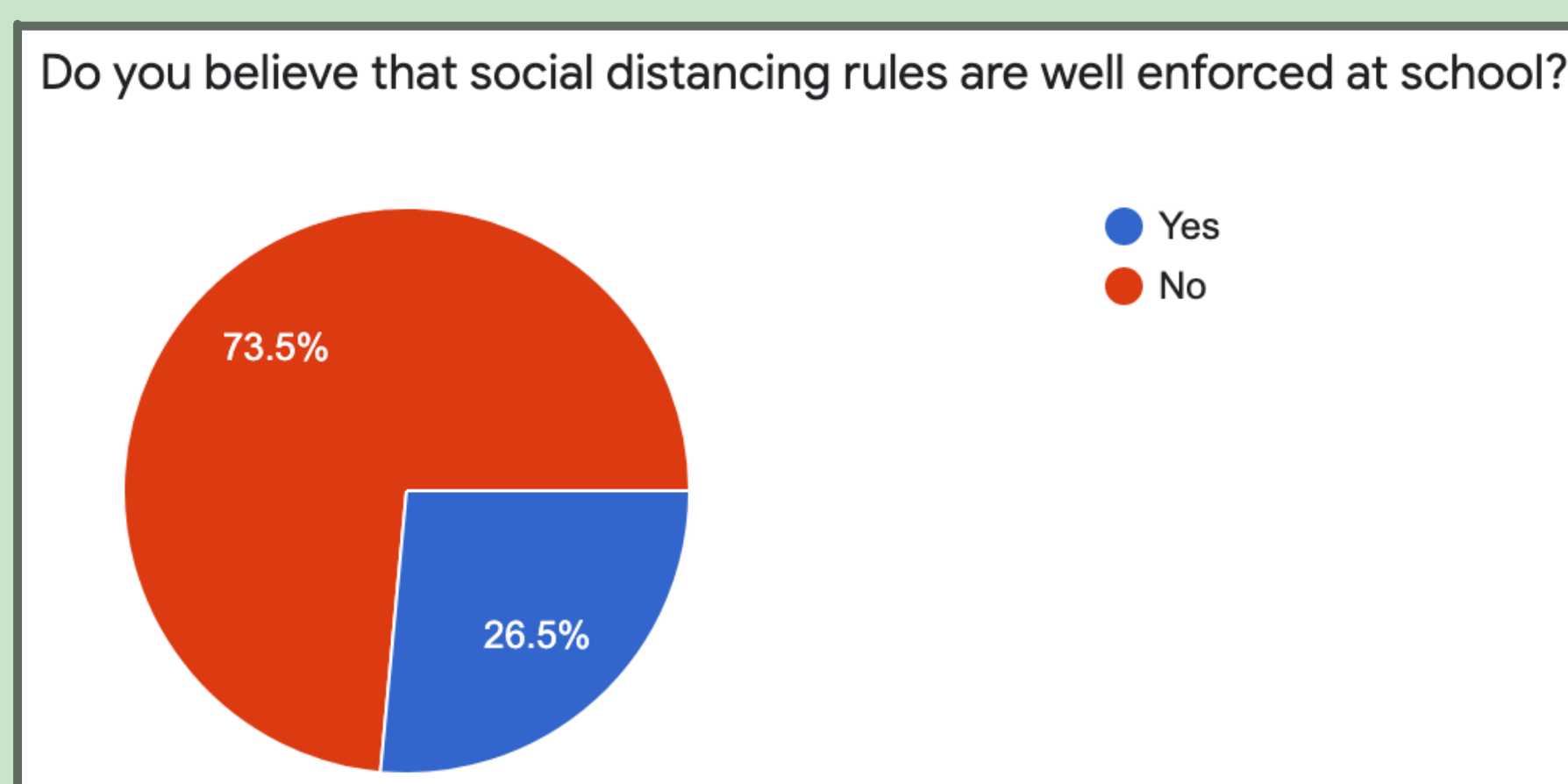
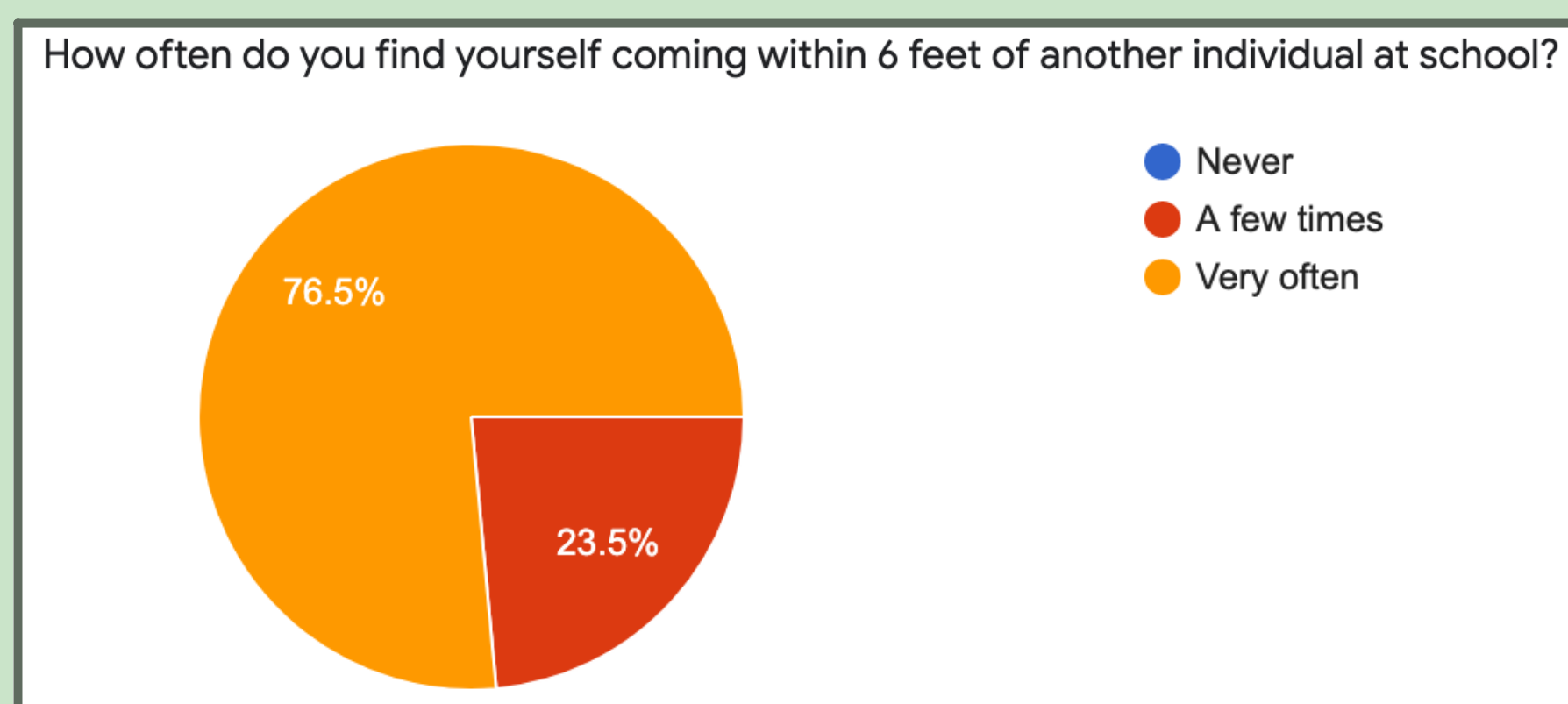
| | XPOSURE | COMPETITORS |
|-----------|--|--|
| STRENGTHS | <ul style="list-style-type: none">• Numerous additional features: Symptom log, Interaction Insights, Profile• Customized for school setting | <ul style="list-style-type: none">• Already established platform and company• Longer time on the market |
| WEAKNESS | <ul style="list-style-type: none">• Only available on iOS as of now• Not an already widely known company | <ul style="list-style-type: none">• no additional features other than social distancing notification• limited expandability |

Initially, we sought solely to create a social distancing app that would notify a user when they entered within 6-feet of another. However, upon observing our competitors, we realized that the creation of a dashboard showing daily, weekly, and monthly insights would offer us a competitive advantage over other apps. We realized we would possibly inspire users to take more precaution in their social distancing practices after seeing their interaction insights. Additionally, we noticed that none of our competitors included a symptom logger – a key feature of COVID-19 tracking – and decided to add this in.

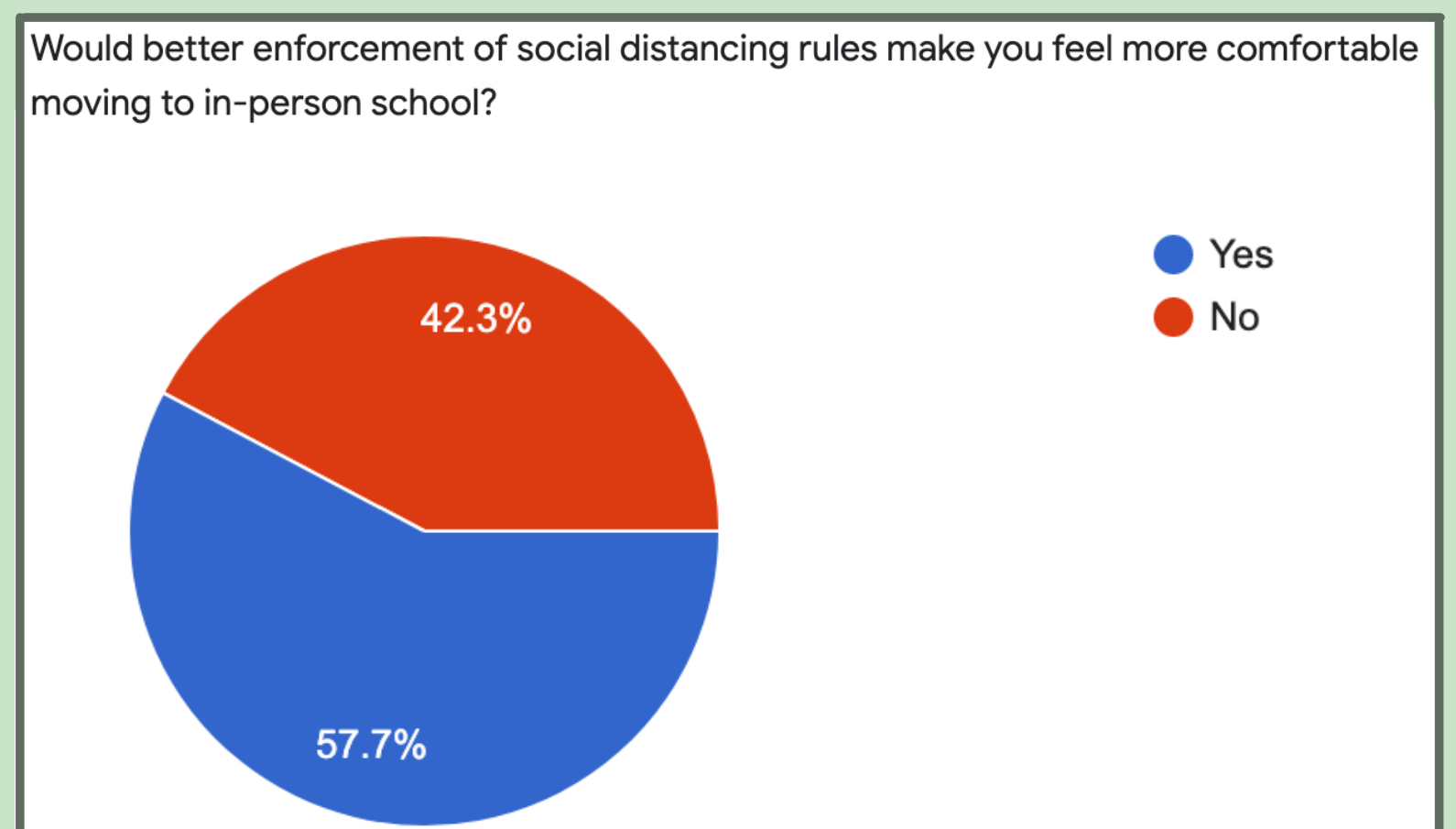
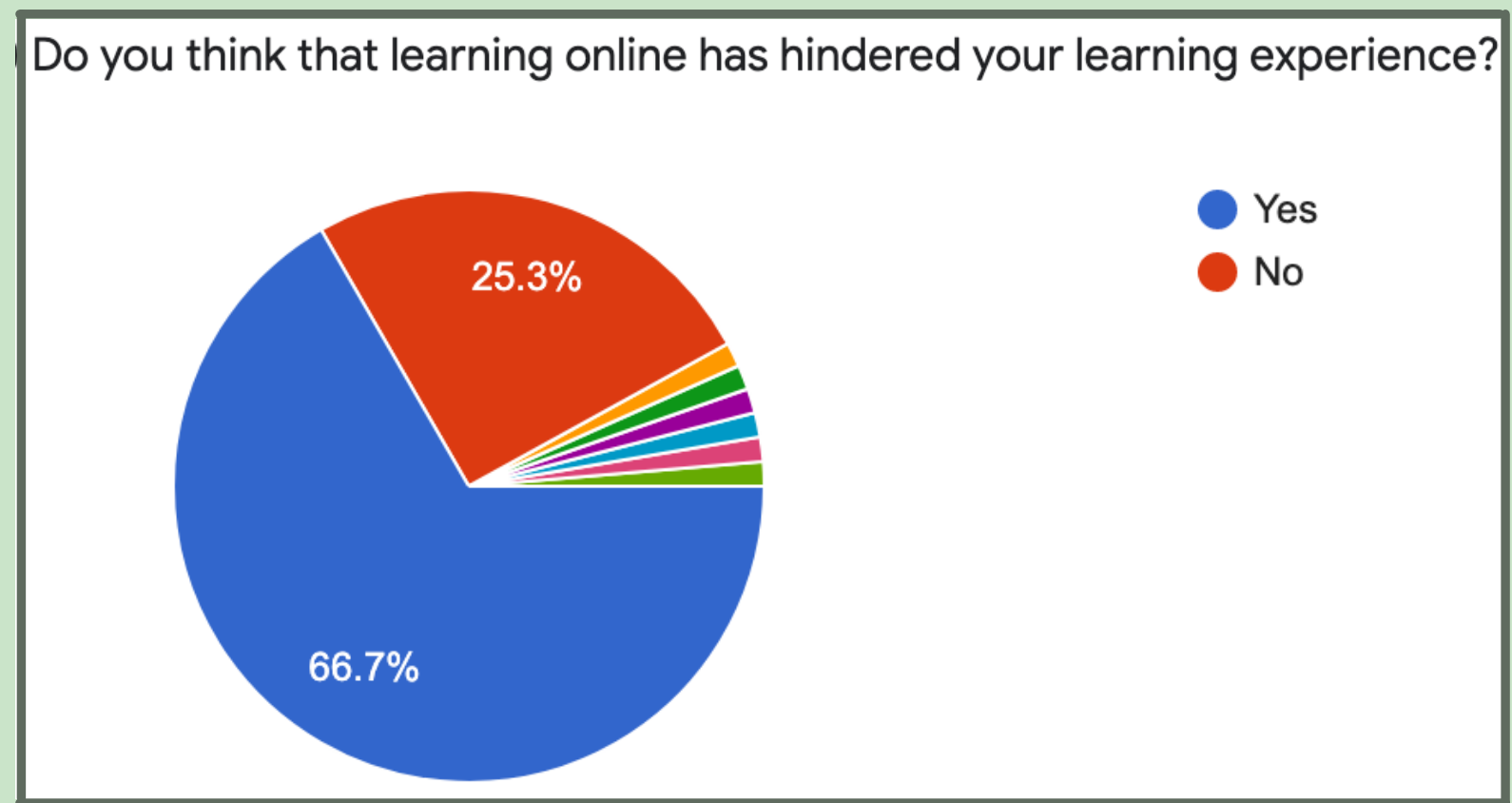
CUSTOMER RESEARCH

In order to gain a better understanding of our target market, we conducted a survey of our community and received over 176 responses from students, administrators, teachers and parents. Subjects were offered questions regarding various aspects of social distancing and COVID-19 in schools.

Of the students, teachers and administrators attending school in person, 77% of respondents stated that they come within 6-feet of another individual very often, while the remaining chose a few times. Additionally, 74% of respondents stated that they believed social distancing rules were not well enforced at school.



To gain a better understanding of the possible impact of our app, we surveyed online students on their motivation for remaining digital. One of the major issues with online learning is its adverse effects on students, with numerous studies reporting worsened mental health and motivation in students that transitioned online. In our survey, nearly 70% of online student respondents stated that online learning has hindered their learning experience. Additionally, almost 60% stated that they would feel more comfortable moving in-person if social distancing guidelines were better enforced.



Since school administrators would likely be some of the most crucial customers for our app, we surveyed administrators on their current method for tracking and reporting COVID-19 cases at school, and whether or not they felt it was effective. 80% of respondents felt that they were either unsure or did not believe their school's current methods were effective in preventing transmission of COVID-19.

PERFORMANCE

Based on our customer research, we feel that Xposure will perform well in the market. Our questionnaire demonstrated a clear need for a joint social distancing and symptom tracking app designed for a school setting.

We interviewed our local middle school principal to further gauge the necessity of our app, and we were met with approval and confirmation of desired future usage once our app was ready. We feel that Xposure could have a grand potential impact due to the combination of high customer demand and a well-designed user interface.

STRATEGY & IMPLEMENTATION

BRANDING

“Xposure” is a play on the word “exposure” where the first two letters are replaced with a capital X, showing how our mission is to bring an end to exposure. Our slogan, “Exposure? No sir.” gives off a friendly message in hopes that our users will feel comfortable using our app so they will interact with it more. Our color scheme is made up of greens and blues, which represent new beginnings and growth. The cool colors also provide a calming atmosphere, which is important for users to feel safe during these dangerous times. Finally, the green displays modernity - how our app utilizes modern technology to combat modern issues.

STRATEGY TO REACH TARGET USERS

We plan on advertising Xposure through brand ambassadorship and recommendations from local school district superintendents and school principals, who can reach out to the students of each school. After launching the app in the iOS app store, Xposure will be accessible to the public. Since we are a nonprofit business, anyone can freely install our app. There will also be different accounts across multiple social media platforms to help answer questions and receive user feedback. This way, users can feel more connected with the creators of the app, giving them more motivation to use it.

TARGET USER FEEDBACK

Many users stated that they would feel more comfortable using the app if provided with a brief description of the app's functionality within the app. To accommodate for this, we decided to make a welcome page containing an explanation of our app's mission along with a "view data button" that takes the user to the main interface. We found that with this addition, users were much more satisfied with their experience.

PRICING

Because we believe that everyone needs the opportunity to have a safe, exposure-free learning environment, Xposure is entirely free to everyone.

COMPANY FUNCTIONS

Initially from creation to launching Xposure on the app store, our app worked using Team Artificial's personal resources. Currently, Team Artificial is a two-person team handling all aspects of app development and business marketing. After Xposure is shared and used across several different schools, we can reach out to school administrators and Computer Science teachers, as well as technology companies, to receive sponsorships and funding to purchase stronger equipment and hire potential software developers and marketers. We plan to have 3 more software developers to improve our interaction detection system, 1 marketer to share our app, and 1 software designer.

FINANCIAL PLANS & PROJECTIONS

REVENUE MODEL

Ad revenue: Implementation of advertisements (Google Ad Partnership) would allow us to gain revenue directly from the usage of our app.

Tech company sponsorships: We have contacted various large companies that specialize in technology for potential monetary sponsorships in the development of our app (Google,

Board of education sponsorships: Social distancing guidelines implemented by the Center for Disease Control are required to be enforced in certain school districts. Since Xposure offers a simple and effective solution, various Boards of Educations utilizing the app could help sponsor development.

Donation system: Online portal through which the community helps kickstart the app, to help with the beginning funds necessary for marketing and sponsorship quizition

OPERATING COSTS

Support Team: We are currently in contact with various volunteers from our community that specialize in the upkeep of the different aspects of our app.

Developer Team: We hope to employ part-time developers who can help further the app to better cater to our market.

Database Management: Our current databases are on Firebase, which is free of charge and can hold more clients for when Xposure usage expands.

Marketing Costs: Our marketing costs will be low, since we plan to contact ambassadors and superintendents to help get the word out about our app. The team members and volunteers will manage outreach for advertisement and sponsorship acquisition.

Google Ad program and App store: establishment of Google ads on our app will require some initial funding, as well as distribution of the app store.

BUDGET & FUNDING

We have gained some preliminary funding (\$400) through fundraisers from our local community. The money gained will be utilized as initial funding for Ad revenue program, as well as for distribution of the app on the App store for the next year. After our app launch, the revenue from our other streams (sponsorship, etc.) will be utilized to fund a development team who can focus on improving the app, marketing, and outreach. However, as of now, we plan on handling the majority of the management and development without pay as a team, along with the help of some volunteers.

PROFIT PROJECTION

Xposure was not designed as a for-profit app. Our goals are rooted in keeping students and families safe and healthy, so we do not charge any users for the use of our app. Our main streams of revenue will come from Ads and Sponsorships, as outlined above.

Though we expect funding from various revenue systems based on our cause, we may not make a stable profit in the start as we must finalize sponsorships. Fortunately, our preliminary funding will be able to carry us through affording the Google Ad program and the app store distribution until our revenue becomes more finalized.