

BOARD # 74: Mental Health Resource App Developed for University Community by Students

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1 Abstract

One of the largest issues facing college students today is addressing mental health concerns, especially due to the inaccessibility of mental health resources. Many students struggle with mental health throughout their college experience due to the unique variety of stressors at university (academic pressure, social difficulties, new environments, etc.). Students often find it difficult to reach out for services they need, so the University's mental health resources need to be very accessible. Similarly, staff have a need for the University's resources, for themselves and when concerned for students. Three computer science majors, overseen by a faculty member from the computer science department, set out to solve this by designing and developing the "ChargerCare" mobile app. ChargerCare provides a user-friendly interface for accessing relevant and elaborate guidelines for how to properly access resources for mental health concerns. The app development itself involved the usage of platforms such as Unity and Figma for building and sketching out the UI and back-end of the app. In addition, the University's Counseling and Psychological Services office served as an outside expert. The app provides guidelines for which resources are relevant, as well as links and phone numbers for each of them. The app has been designed with the opportunity for future expansion in mind, allowing it to be updated to handle new audiences, as needed, and also integrate with other potential off-shoot projects.

2 Introduction

One of the greatest concerns for post-secondary students is mental health, especially issues brought on by the stress of academic life. Mental health is impacted by a variety of factors, ranging from academics to personal life to social issues. Many students report high levels of anxiety, but few students report using University resources to address such issues. In order to face these concerns, a group of computer science students and faculty started a project: ChargerCare. The students variety of specialties allowed them to create an app that could help fellow students, as well as faculty, on campus.

The process of creating the app was a lengthy one, as it required involvement from several different departments on campus. The collaboration was necessary to ensure the quality of the app, and therefore its effectiveness in addressing the concerns for members of the University community. Most of the development time was spent like this, in careful planning to ensure the success of the app from the start. Upon the conclusion of the planning and development process,

the app would be released to the University community via the Apple App Store and the Google Play Store.

3 Background

Academic performance can be influenced by poor mental health stemming from the multifaceted challenges faced by post-secondary students. These challenges include but are not limited to: social pressures, bullying, anxiety, identity issues, and lack of support systems. According to a study conducted on 72 post-secondary students, approximately 72 percent of participants self-reported an anxiety score of 8 or above on the GAD-7 system [1]. A score of 8 on the GAD-7 system marks the point that an individual is recommended to seek professional help. Moreover, in another study that was conducted in 2018-2019 on 62,171 colleges, 57 percent of students with anxiety or depression have not used counseling resources or therapy [2].

In order to combat mental health issues among the population at a university, the university must establish resources and ensure that the population is aware of them. At the University of New Haven, there is a single, front-and-back page of information on the University's resources. Every faculty member receives a single copy of this page, but it is not available to students. In fact, all three of the students involved in this project were completely unaware of the page until it was mentioned by faculty in the early stages of planning. Thus, the page provides no accessibility or awareness to students. Additionally, faculty must carry the page with them at all times to have access to its information.

There is one thing, however, that most people easily carry with them at all times: a mobile phone. Thus, with all of these concerns in mind, three college students came together with faculty guidance to create an application for accessing mental health resources and addressing concerns. The app, ChargerCare, includes contact information of all the University's on and off campus resources. It also includes guidance on what resources are relevant based on the warnings signs that the user identifies in themselves or a person they are concerned for.

4 Implementation

The primary goal of the ChargerCare app is to improve accessibility and awareness of the University's resources, particularly as they pertain to mental health. With this goal in mind, the entirety of app development was focused on user friendliness and accessibility. Using the Unity engine for cross-platform development, the app is built for iOS and Android. While the concerns that led to the app's development were for students, the app is designed for use by both students and faculty.

The members of this project first met with the University's counseling and psychological services department to ensure the app followed the appropriate guidelines and could achieve its goals. After receiving approval from the department, the project continued to prototyping the app using Figma. A comprehensive view of the app was created, with some placeholders for information that would be received from other departments at the University. The prototype was then taken back to the counseling and psychological services department for review. Upon receiving a positive review, app development began.

The app has two main features that work in tandem: finding resources and determining which are relevant. The app provides an easy-to-use navigation system to access its features. The homepage directs the user to see warning signs, see a list of resources, or go directly to emergency resources. The emergency resources are within the emergency category of the list of resources, but it is vital that users can navigate directly to emergency resources as they are often needed in time-sensitive situations. The warning signs provide assistance in determining which resources are relevant, particularly when the user is considered for someone else. These resources are divided based on whether the user is worried for the physical safety of a person or others around them, which includes an option for if the user is unsure. Finally, the list of resources is categorized by student, faculty, and emergency resources. The user can navigate this information by using tabs at the top of the page, which includes a tab that lists all resources. Some of the app functionality can be seen in the figures below.



Warning signs indicating possible safety concerns:

1. Reports self hate (not deserving to live)
2. Talks about or threatens suicide
3. Marked change in appearance or hygiene
4. Bizarre or dangerous behavior
5. Appears agitated
6. Appears/reports hopelessness

Are you worried for the physical safety of this person or others around them?

Three dark blue buttons with yellow text: "Yes", "Maybe/Unsure", and "No".

Go Back

(a) Warning Signs



Does the person exhibit any of the following:

1. They are disoriented, unconscious, or unresponsive
2. They disclose ingesting overdose of pills
3. They attempt or are threatening immediate danger to self or others

Call Campus Police or 911 Immediately

Immediate next steps:

Call Campus Police

Call: (203) 932-7070

Notify Dean of Students

Email: deanofstudents@newhaven.edu

Notify Director of Counseling

Call/Email: (203) 932-7333

pbartels@newhaven.edu

Go Back

(b) Emergency Resources

Figure 1: App Functionality to Identify Warning Signs and Direct User to Appropriate Resources

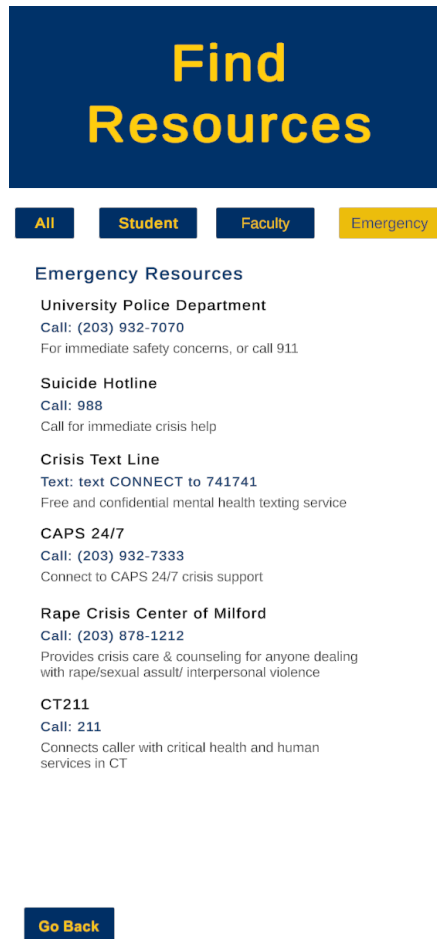


Figure 2: Resources Section

While the existing features of ChargerCare represent significant progress in solving the issues identified among the university community, it is also designed to be extensible. This is of vital importance primarily due to the possibility of changes in resources, but also to allow for more services to be added to the app. Because ChargerCare was created due to concerns about the lack of a service being provided, specifically that of awareness and access to mental health resources, it is plausible that similar concerns may appear in the future. With the extensible design of ChargerCare, these new concerns can be addressed quickly and effectively by adding solutions to the existing app.

5 Results and Conclusion

The ChargerCare application aims to provide an essential service to the university community: that of providing access to its resources. The app, which is shared among all members of the university community, provides a full list of university resources and a user-friendly interface to navigate them. By increasing the accessibility of university resources, their effectiveness is increased is kind.

The volume of resources offered and variety of ways to get into contact can be overwhelming, especially for those who are struggling with mental health. Unfortunately, those people are precisely who need the resources the most. Thus, the purpose of this app is to make the process of finding the right resources and making contact as straight-forward and accessible as possible. The app's design and convenience is compelling evidence that this goal has been achieved. Given the subject matter, it is important to note that any form of diagnosis is not a feature of the app. The app provides guidance in finding the right resources, but does not state that a user has any particular issue or requires any particular assistance, save for stating that a user should contact emergency services when they identify immediate danger.

Though the initial goals of the app to address mental health concerns have been reached, expanding the app to include more features in the future may provide more positive impacts on the university community. The University has a variety of resources not related to mental health that also have barriers to access that could be addressed with the ChargerCare app. The ability to communicate with on-campus support within the app could also be shown to increase access, as leaving the app requires some effort. The overall aim of ChargerCare, including future expansions, is to enhance awareness among the university community of the available resources and mental health. Enhancing awareness not only increases access, but can serve to de-stigmatize mental health issues, creating a better community for the future.

References

[1] Brown, M. L., Trotter, C. E., Huang, W., Contreras, C. K., DeMuth, W. D., Bing, E. G. (2024). COVID-19 and mental health among college students in the southwestern United States. *Journal of American College Health*, 72(9), 3095–3102. <https://doi.org/10.1080/07448481.2022.2153601>

[2] S. M. Casey, A. Varela, J. P. Marriott, C. M. Coleman, and B. L. Harlow, “The influence of diagnosed mental health conditions and symptoms of depression and/or anxiety on suicide ideation, plan, and attempt among college students: Findings from the Healthy Minds Study, 2018–2019,” *Journal of Affective Disorders*, vol. 298, pp. 464–471, Feb. 2022. doi:10.1016/j.jad.2021.11.006