The paper should provide a technical description of the project and the results you obtained. It should include a scholarly review of the related prior work, including citations to the relevant literature. The writing style and technical level should be similar to that which would be used for a paper published in a technical conference in that research area.

Abstract

In an effort to increase prospective Computer Science (CS) students' sense of belong in CS, I was tasked with coming up with an intervention that would show students how CS benefited society. A possible intervention idea that came about was the development of an Android mobile application that would incorporate scrollytelling and data visualization, to show how CS does just that.

Introduction

The project I worked on during the summer involved coming up with an intervention that would change prospective computer science students' view of how CS benefits society and in doing so, would increase their sense of belonging in the field. One intervention idea that we came up with involved creating an Android mobile application that would incorporate scrollytelling, a journalistic form of storytelling which involves using text, photos and graphics to produce a more engaging story piece, and data visualization. The resulting app would provide an interactive and engaging learning experience for students. With this vision in mind, I was able to create a simple sample app, using Android Studio and materials I had learned from my schooling at Mills College.

Background

From Understanding and Expanding College Students' Perceptions of Computing's Social Impact, research shows that college students who believe that computing can benefit society tend to report a higher sense of belonging. This is especially true for students who endorse wanting to help society as a goal. In effort to increase this sense of belonging It was proposed that educators provide examples of positive social impact beyond computing's contribution to modern conveniences.

App Development

In its early stages, the app was a simple one page application that displayed a couple of sample graphs and associated text descriptions. A visual of this iteration is provided in Figure 1. The second iteration of the app, involves presenting both the sample graph and accompanying text description within a collapsible view, which could be accessed by clicking on a header title. Visuals of this iterating are provided in Figures 2-A and 2-B. The graphs generated within the app were created using the GraphView library, which unfortunately came with a small bug in the second iteration. The bug was that the graph would not generate within the collapsible view, and the reason as to why this was so is still unknown. In an effort to get the bug fixed, a question was posted on StackOverflow, but has not been answered to this date. The idea of using another graphing library to generate the graphs was considered but not pursued as I had run out of time. With this being said, the sample app is unfinished.

Conclusion

In order to increase students' sense of belonging in CS, an intervention was needed to show that CS benefited society in many ways. One intervention idea was the creation of an Android mobile application which incorporated scrollytelling and data visualization. The end result was a small sample app which incorporated these elements but was unfortunately left unfinished.

References

Isenegger, K., Birhane, Y., Ojha, V., Coxe, C., & Lewis, C. M. (2021). *Understanding and Expanding College Students' Perceptions of Computing's Social Impact* (thesis).

Figure 1: First iteration of application; simple scrollable page containing graphs and text.
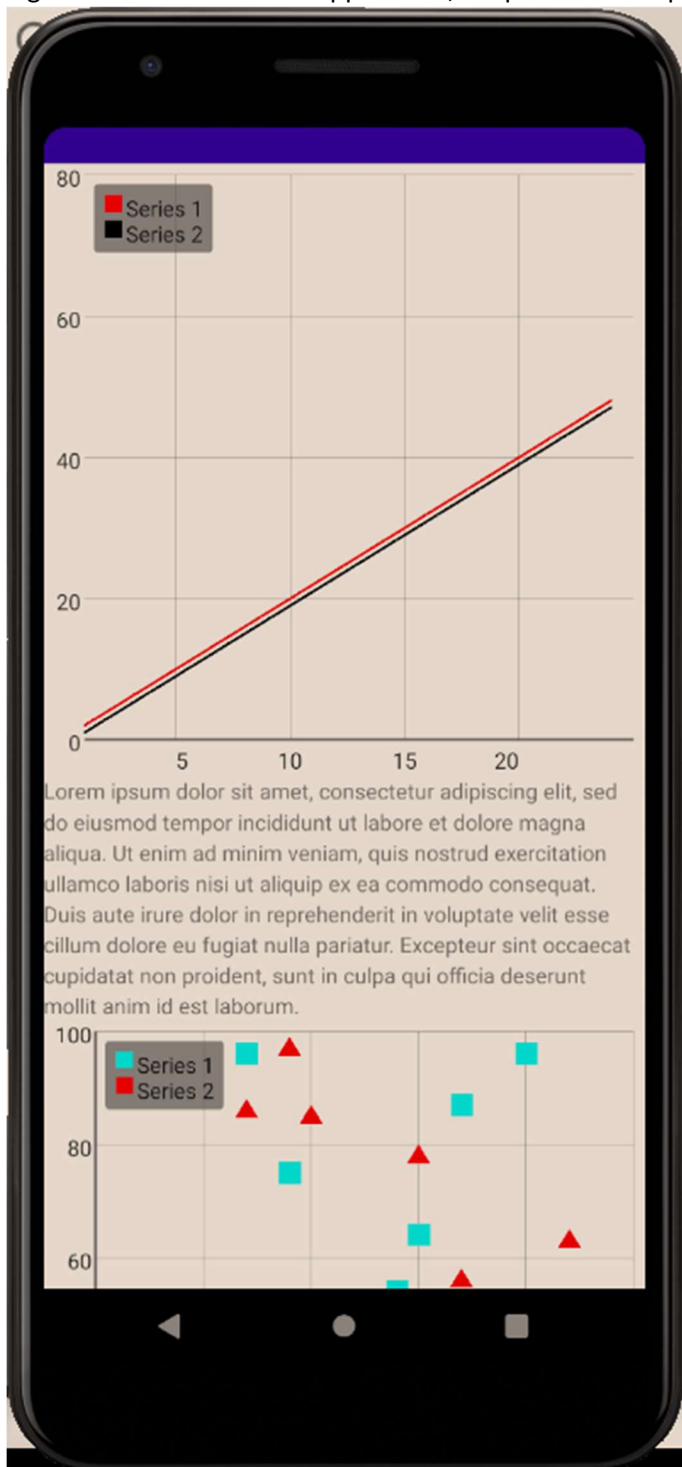
Figure 2-A: Second iteration of application; graph and text presented within a collapsible view, view is collapsed.
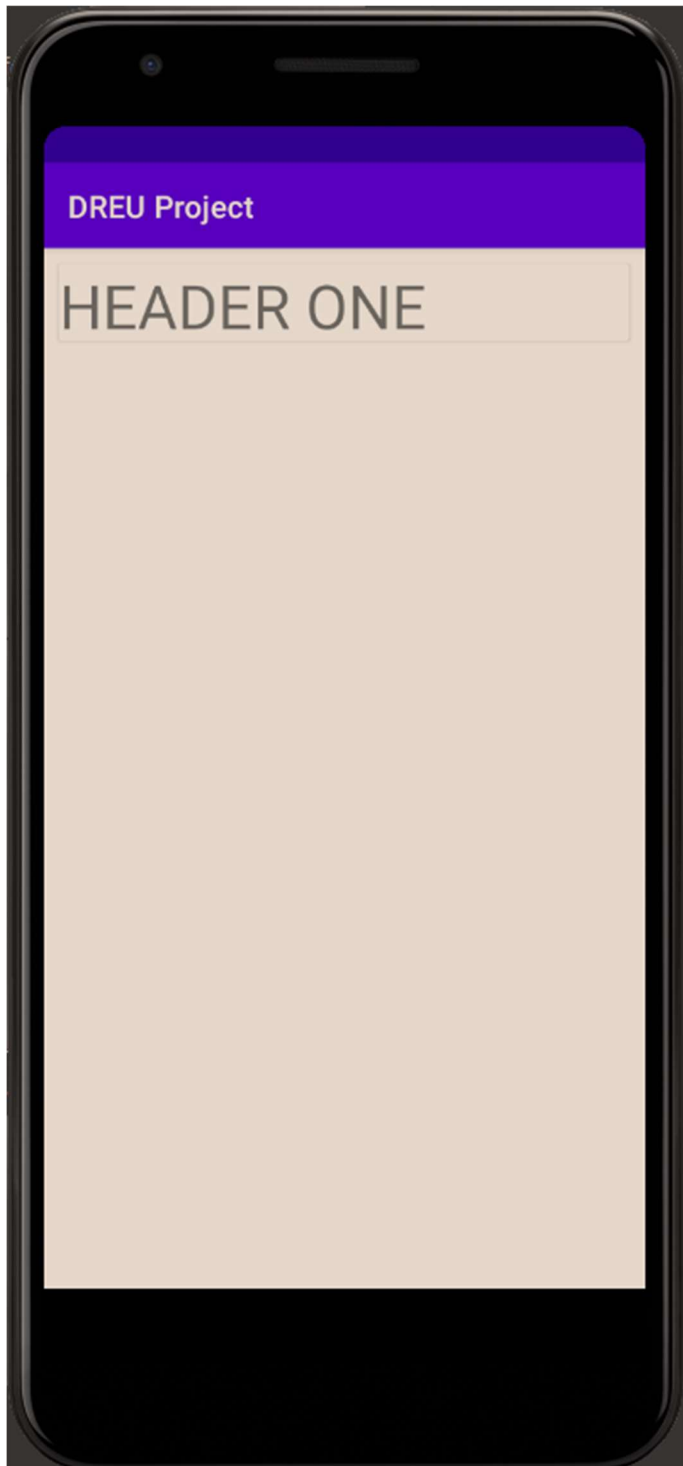
Figure 2-B: Second iteration of application; graph and text presented within a collapsible view, view is expanded.