

Technical Design Documentation

What kind of site/product/application do you plan to design for your final project? If you are working with another student as a team, include your team member name in this question. (Each team member must submit documents individually but the same document can be worked on together.)

The application that I will be developing for this project is a remote native android application for ZenBed. ZenBed is a company that produces vibrating beds that are manufactured with Raspberry Pi. I plan to have this mobile application in the Google Play Store which can be downloaded for Android and used to control Zenbeds.

What's your deadline date for delivery?

The deadline for delivery for the complete application will be on August 1st, 2022. Before the application is complete and fully released there will be three prototypes for this application.

What's the budget for delivery? (Most likely \$0.00 unless you plan to invest in your project)

The budget for delivery on our working project will be the time committed rather than the expense. The time budget for our application will be at least 200-300 hours before the deadline of August 1st. 2023. The expense of publishing a Google Play App is a onetime fee of \$25.

What does your target audience look like?

The target audience for our application will be those who use Android and those who have access to ZenBed or who have encountered our application through the Play Store.

What should the project achieve for your business or you personally?

The project shall allow our product to include remote controllability as well as an additional market for vibration patterns to the community of Zen Bed buyers.

What content will be used within the project and where will it come from?

I intend to use the course material, outside resources from YouTube for Raspberry Pi implementation, an XML template for help creating a professionally designed User Interface, and I will be using information from stakeholders of ZenBed for approval on the design.

Of similar products out there – what do you like/dislike about them?

I believe that many products have an app dedicated to them for additional features. Since most people have access to a smart phone for daily living, I believe that a smart phone will improve the user experience for the company's products. I believe this will help the user

Product Introduction –

The application was designed using Adobe Photoshop CS6, Figma, and Android Studio. I created a mockup using Figma and Photoshop, and followed through implementing the mockup using Photoshop, Android Studio, and a lot of Stack Overflow. To conclude, the entire process taught many important lessons involving persistence, execution, and not giving up despite failures. The project scope was to create an application to cast patterns through Bluetooth implementation, pattern creation through a SQL database, and in the future a cloud to store patterns between users. Here is the mockup:





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Hello Nathan!

Your Zenbed
awaits...

Play Pattern

Create Pattern

Edit Patterns



Rectangle

October 20, 2020



Expanding Circle

October 24, 2020



Play Pattern

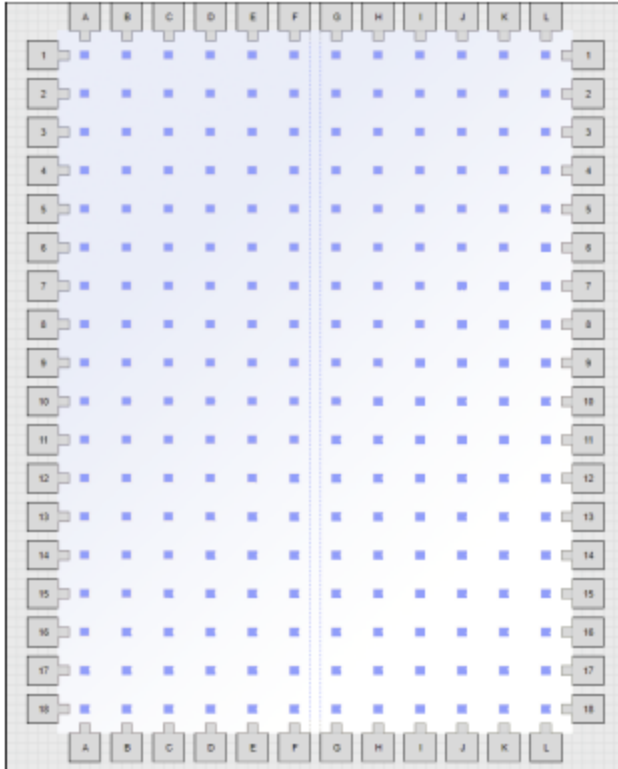
Cast

Start/Pause





Drawing Mode



ZenBed settings...



Fade time = 1 second

2 Days ago





Zenbed Settings



Rate of change = 1%

2 Days ago



Pattern time = 5 seconds

2 Days ago



Pattern power = 100%

2 Days ago



Pattern start power = 20%

2 Days ago



Pattern max power = 50%

2 Days ago



Pattern hold time = 5 Seconds

2 Days ago





Application Settings



Nathan Eyal



Dark Mode



Edit Profile



Change Password



Language



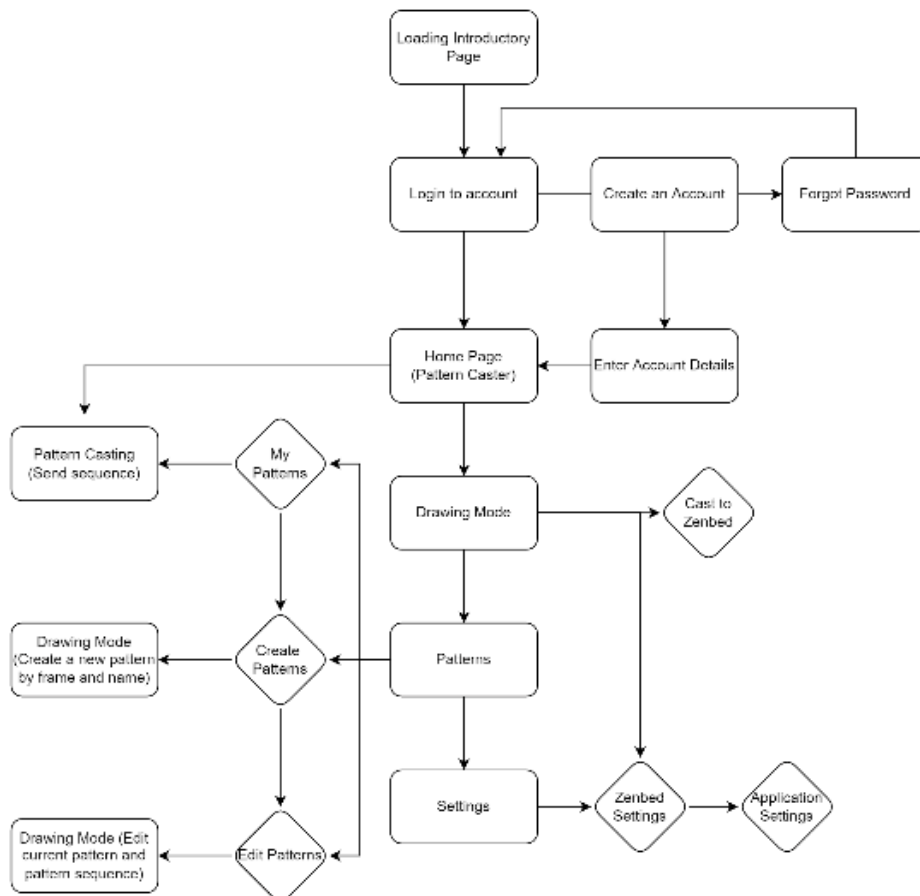
Bluetooth - Nathan's Zenbed



Logout



Workflow:



Application:



10:32



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Password



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Sign in with Google

10:33



Hello Nathan!

Your Zenbed
awaits...

Play pattern

Edit Pattern

Create Pattern

Rectangle Pattern

Circle

Play Pattern

CAST

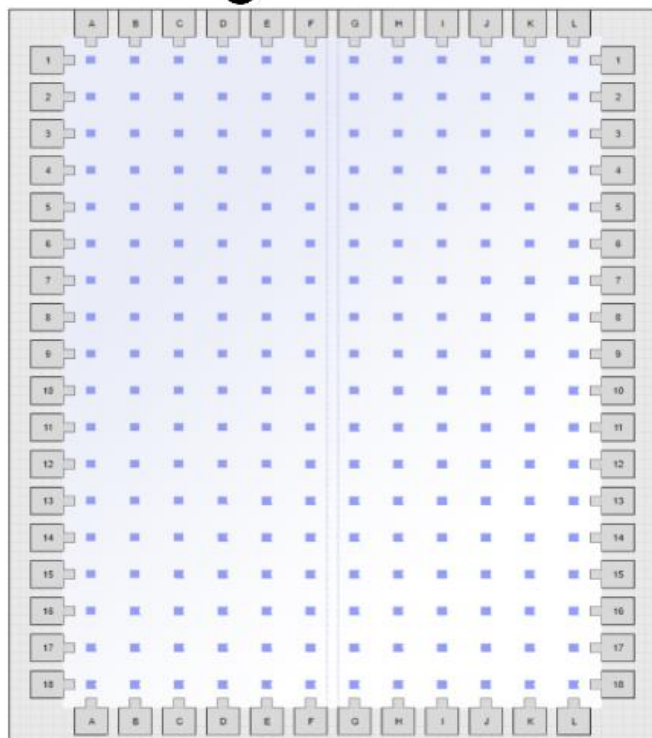
PLAY/ PAUSE



10:33



Drawing Mode



Zenbed Settings...



Pattern rate of change =
15%



10:33



Zenbed Settings



Pattern rate of change = 15%



Pattern time per frame = 0.1



Pattern power = 100%



Pattern start power = 20%

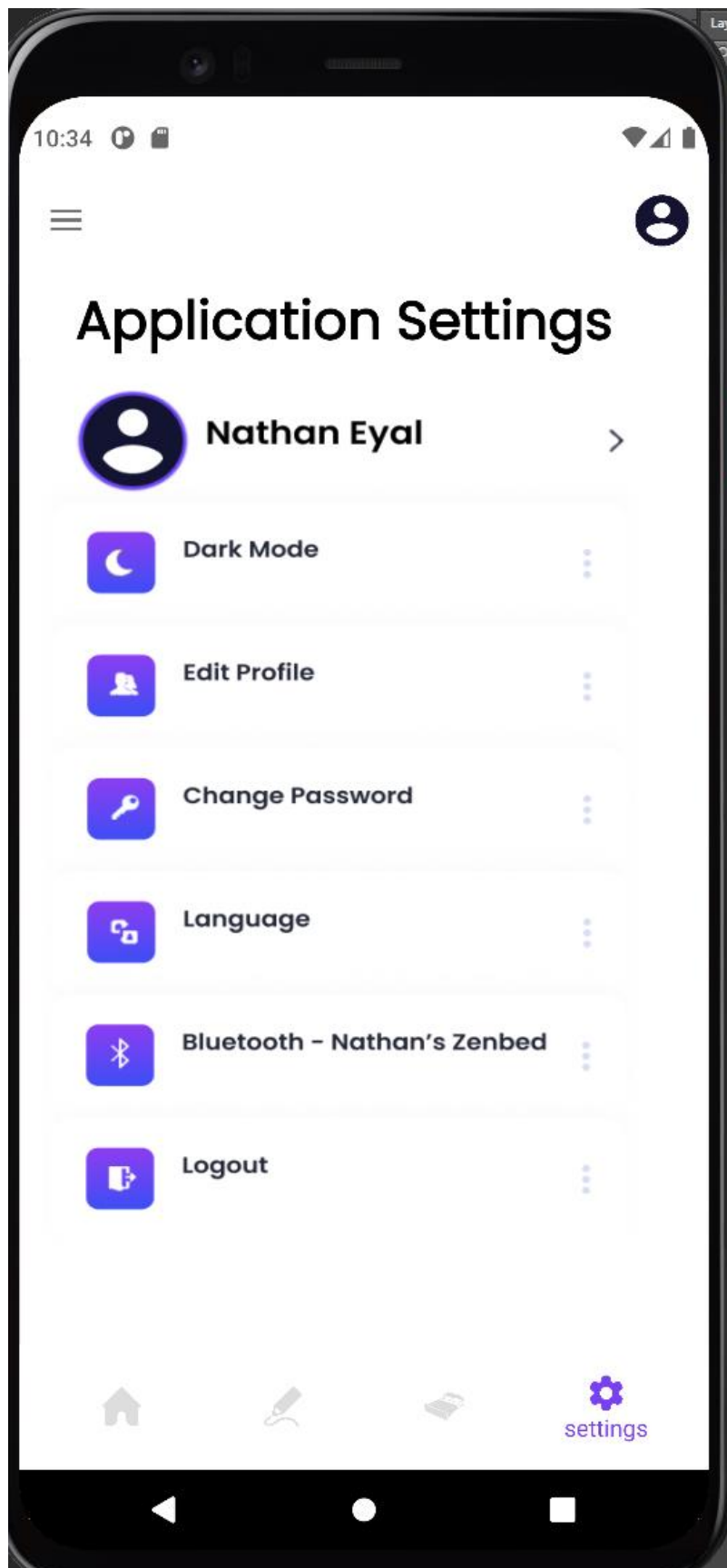


Pattern max power = 20%



Pattern hold time = 5 seconds





Sources:

[Stack Overflow - Where Developers Learn, Share, & Build Careers](#)

[Horizontal ScrollView in Android Studio | Horizontal ScrollView in Android Example | ScrollView - YouTube](#)

[BottomNavigationView with Fragments - Android Studio Tutorial - YouTube](#)

[Navigation Drawer with Fragments Part 1 - MENU AND ACTIVITY THEME - Android Studio Tutorial - YouTube](#)

[Android UI kit – Figma](#)

Conclusion:

A lot of work went into the following project, but I can conclude that a lot was learned. The following screenshots all are evidence of the front-end components of the application. What needs to be added to the ZenBed app is a complete settings page which has not yet been included. As of now the application has the front pages but the settings page has not yet been finished. A lot of future implementation is planned ahead for this application such as a database for users as well as patterns connected and stored between each user, a cloud to download patterns from, and a drawing/pattern creation mode to come. The application will eventually be released on the Google Play Store for downloads. A second possibility is that the application will be completed through the quasar framework.