Purpose:

- ***What is the problem or the opportunity that the project is investigating?***

Puzzled is a fun, stress relieving daily puzzle.

- ***Why is this problem valuable to address?***

Playing puzzles have health and wellness benefits. Cognitive benefits include: enhanced problem-solving skills, analytical and logical thinking, improved cognitive function, memory retention and recall, pattern recognition, and slows age-related cognitive decline. Wellness benefits include: reduced stress, increased sense of calm, and triggers endorphin release (The happy neurotransmitter). *(Coleman 2023)*

- ***What is the current state (e.g. unsatisfied users, lost revenue)?***

Currently users are dissatisfied because they need multiple apps to get music, weather, and a puzzle. This leaves less time for fun and relaxation.

- ***What is the desired state?***

Puzzled makes it simple by putting everything in one place.

- ***Has this problem been addressed by other projects? What were the outcomes?***

There aren't other Apps that incorporate puzzles, music, and weather in one app. There are specialty apps like NYT Games, Weather App, and Spotify for music.

Industry/ domain

- ***What is the industry/ domain?***

Puzzled is for everyone who has a minute to play, listen to a song, and check the weather. It can also relevant in education and media and advertising.

- ***What is the current state of this industry? (e.g. challenges from startups)***

Currently there are apps like NYT Games for Puzzles, Calm for stress, the Weather App for weather, Spotify for music, and many others. NYT Games App has been very successful and was downloaded 10 million times in 2023 alone. (The New York Times Company 2023)

- ***What is the overall industry value-chain?***

Value chain would include: a beta test, SEO and advertising, employees to maintain data.

- ***What are the key concepts in the industry?***

Key concepts in the Industry: simplicity, enjoyability, with an easy to use interface.

- ***Is the project relevant to other industries?***

Relevant Industries: education, and media and entertainment.

Stakeholders

- ***Who are the stakeholders? (be as specific as possible as to who would have access to the software)***

end users, potential advertisers, and employees, teachers, schools
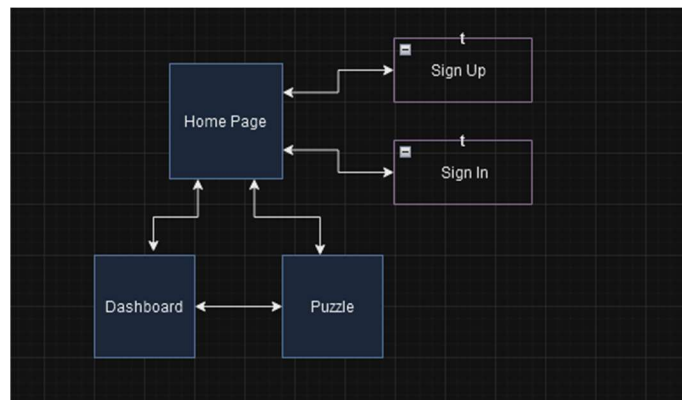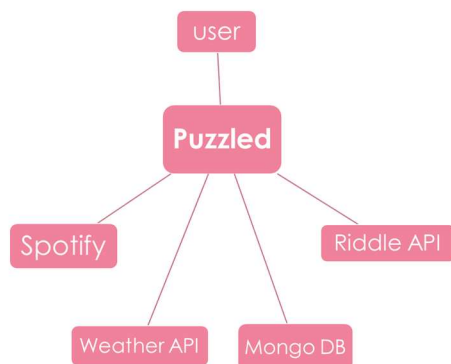
- ***Why do they care about this software?***

Puzzle games have many health and wellness benefits. Everyone needs a moment to sit down, relax, play, and enjoy music. In schools it could be a teaching aid
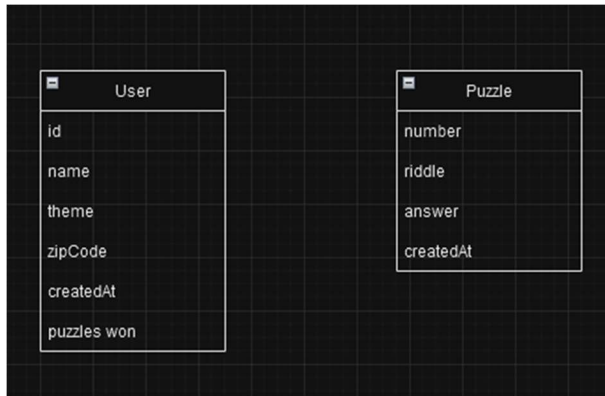
- ***What are the stakeholders' expectations?***

- Relaxing and fun
- Simple and elegant user interface
- Minimal personal information required

- Accurate weather
- Multiple song choices
- Theme Preferences

Architecture Diagram & User Flow

Include a diagram of the building blocks of the design including users and how they interact with the product.

User lands on Home Page

User clicks on Sign up or Sign in

User is redirected to Sign in or Sign up form

User submits required details

Account is created or recalled.

User can play puzzle, check dashboard, and choose music

User Stories

#1: Create an account

As a user, I want to be able to create an account with minimal information quickly. I want to be able to sign in next time and have my preferences remembered.

Priority: High

#2: Game play with options

I would like to play a puzzle that takes between 5 and 10 minutes while listening to music. I would like to have the option to play another puzzle when I complete the first.
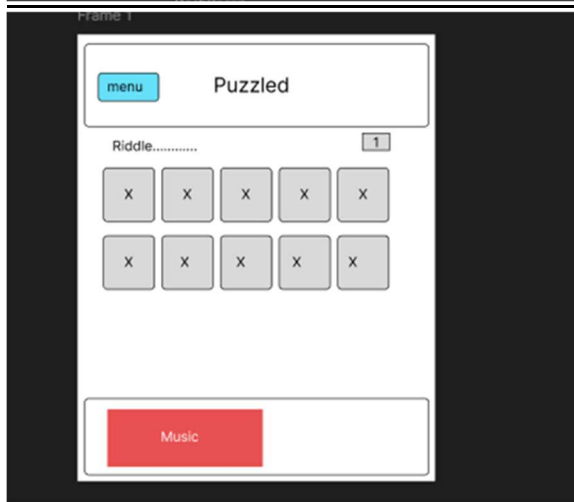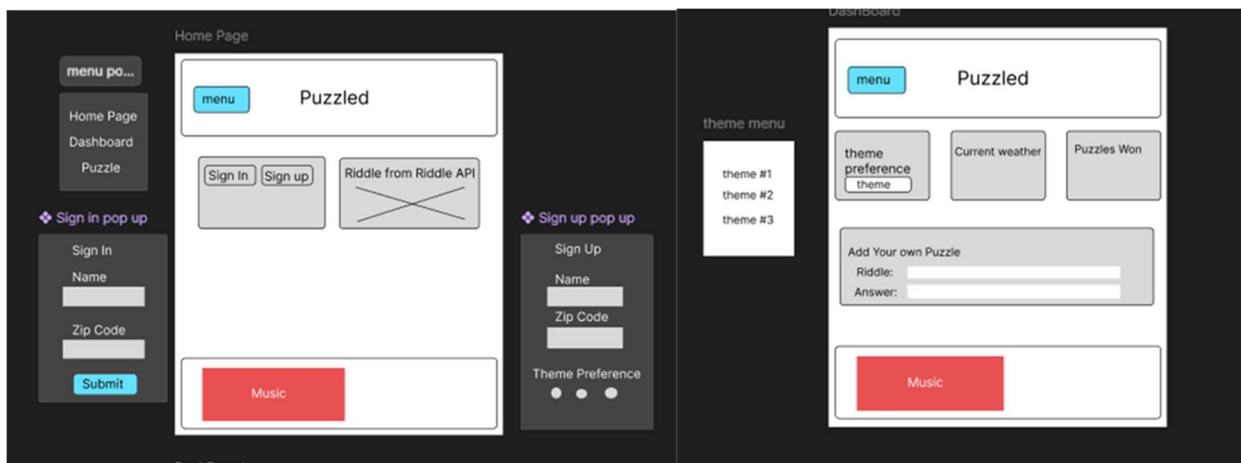
Priority: High

#3: Weather Api

I would like to have a quick weather update while I'm sitting down to take a break and play my puzzle.

Priority: Medium

Lo-Fi / Hi – Fi Figma Design

Header

sign-up
sign- in

Footer

Header

Dashboard/Riddle api
add a riddle/ user info
weather

Footer

Header

Puzzle

Footer

Home Page

menu po...

Home Page
Dashboard
Puzzle

❖ Sign in pop up

Sign In
Name

Zip Code

Submit

menu   Puzzled

Sign In Sign up   Riddle from Riddle API

Music

❖ Sign up pop up

Sign Up
Name

Zip Code

Theme Preference
● ● ●

DashBoard

menu   Puzzled

theme menu

theme #1
theme #2
theme #3

theme
preference
theme   Current weather   Puzzles Won

Add Your own Puzzle
Riddle:
Answer:

Music

Frame 1

menu   Puzzled

Riddle.............   1

X   X   X   X   X

X   X   X   X   X

Music

Open Questions/Out of Scope

- ***What features are considered out of scope?***

Additional security and encryption, Merchandise store, Play with friends, sign in Google credentials

Non-functional Requirements?

- ***What are the key security requirements? (e.g. login, storage of personal details, inactivity timeout, data encryption)***

This application should be running at all times and available to play.

- ***How many transactions should be enabled at peak time?***

I will start with scaling for 5K transactions during peak time but hopefully with a gain in popularity we will need to scale up!

- ***How easy to use does the software need to be?***

Software should be easy to interact with and respond quickly

- ***How quickly should the application respond to user requests?***

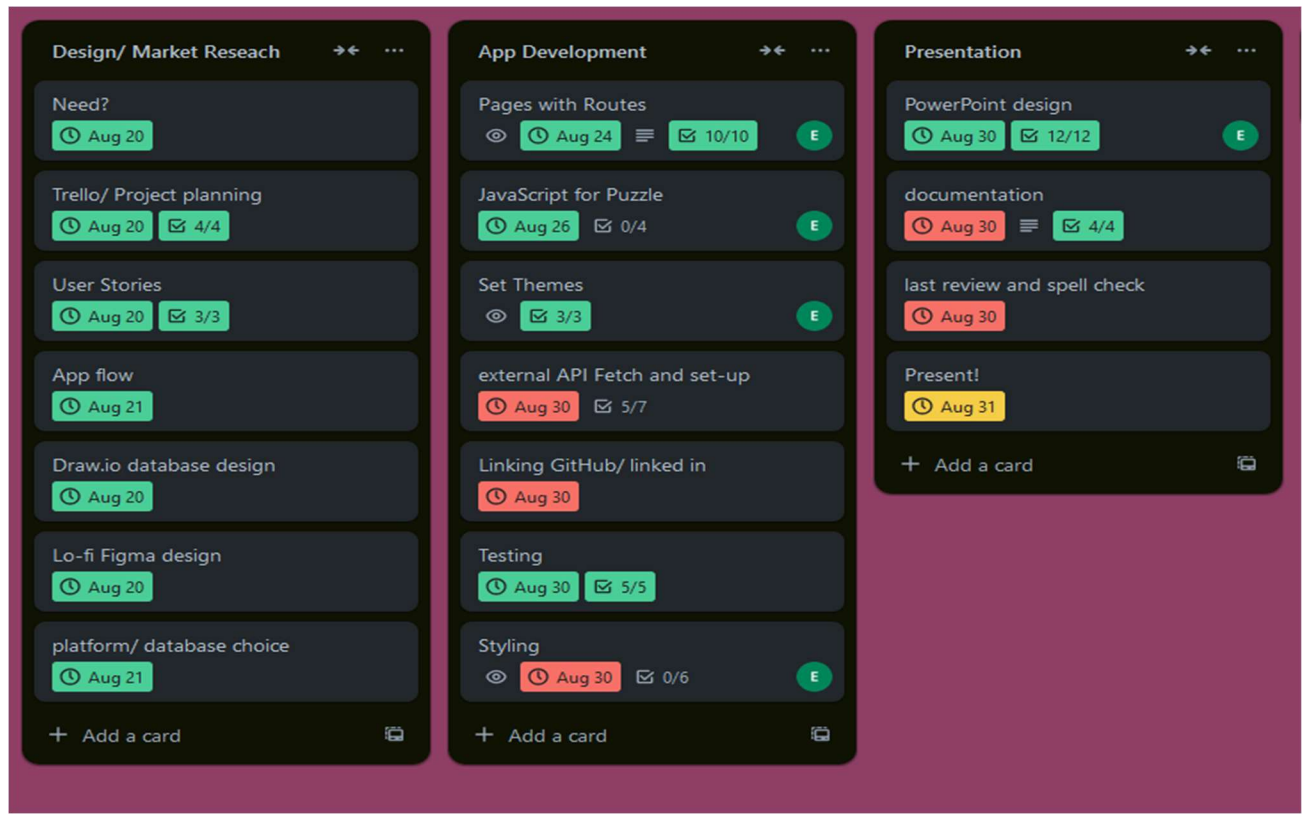I would like optimize my app to be able to have a response time of 1 sec

- ***How reliable must the application be? (e.g. mean time between failures)***

Reliability should be high

- ***Does the software conform to any technical standards to ease maintainability?***

This software conforms to MVC structure for ease of militance and readability

Project Planning

Testing

Code review:

Use capstone-project rubric to ensure Puzzled functional requirement

Ensured functionality was easy to use

Ensured styling was consistent

Reviewed for MVC structure

Software Testing:

Performed manual software testing for each functional unit

Performed integration testing on each page, the App, and database

Asked my family to do functional testing and give me feedback

Edge Cases:

Unit testing and integral testing was done with unexpected values and unexpected clicks.

Then I let my 5 year old try my app!

Implementation

I plan to Deploy on Vercel and MongoDB atlas

Considerations included : Cost efficiency, Ease of use, Next.js framework

End-to-end solution

Puzzled is a fun and unique solution for combining puzzles, music, relaxation, and the weather. I feel like it meets user needs and software functionality!

References

Git hub link:

https://github.com/effilin/Capstone-Project-IOD

Tools used include:

Next.js https://nextjs.org

MongoDB Compass https://www.mongodb.com/products/tools/compass

Bootstrap https://getbootstrap.com/

Mongoose https://mongoosejs.com/docs/

Dotenv https://www.dotenv.org/

Weather Api https://www.weatherapi.com/

Riddles API https://riddles-api.vercel.app/

React-spring https://www.react-spring.dev/