



# PUZZLED

IOD CAPSTONE PROJECT AUG 2024  
EVA NUMMER

# PURPOSE



**Puzzled is a fun, stress relieving daily puzzle.**

**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. *(Coleman 2023)*

**Wellness benefits include:** reduced stress, increased sense of calm, and triggers endorphin release (The happy neurotransmitter). *(Coleman 2023)*

- Currently users are dissatisfied because they need multiple apps to get music, weather, and a puzzle. This leaves less time for fun and relaxation.
- Puzzled is a unique combination of: puzzles, music, and weather.
- Puzzled makes it simple by putting everything in one place.

# CURRENT INDUSTRY



- **Puzzled is for everyone who has a minute to play, listen to a song, and check the weather.**
- 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 exists on most of our phones. It was downloaded 10 million times in 2023 alone. (*The New York Times Company 2023*)
- There is a gap in the industry because no other apps combine puzzles, music and the weather in one simple place.
- Value chain would include: a beta test, SEO and advertising, employees to maintain data.
- Key concepts in the Industry: simplicity, enjoyability, with an easy to use interface.
- Relevant Industries: education, and media and entertainment.

# STAKEHOLDERS



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Stakeholders: end users, potential advertisers, employees, and schools

Why care?

**End Users:** Puzzle games have many health and wellness benefits. Everyone needs a moment to sit down, relax, play, and enjoy music.

**Potential Advertisers:** There is a large end user population who wants to play everyday.

**Employees:** Deliver and manage fun puzzles and music that everyone can enjoy.

Expectations?

- Relaxing and fun
- Simple and elegant user interface
- Minimal personal information required
- Accurate weather
- Multiple song choices
- Theme Preferences



## 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.

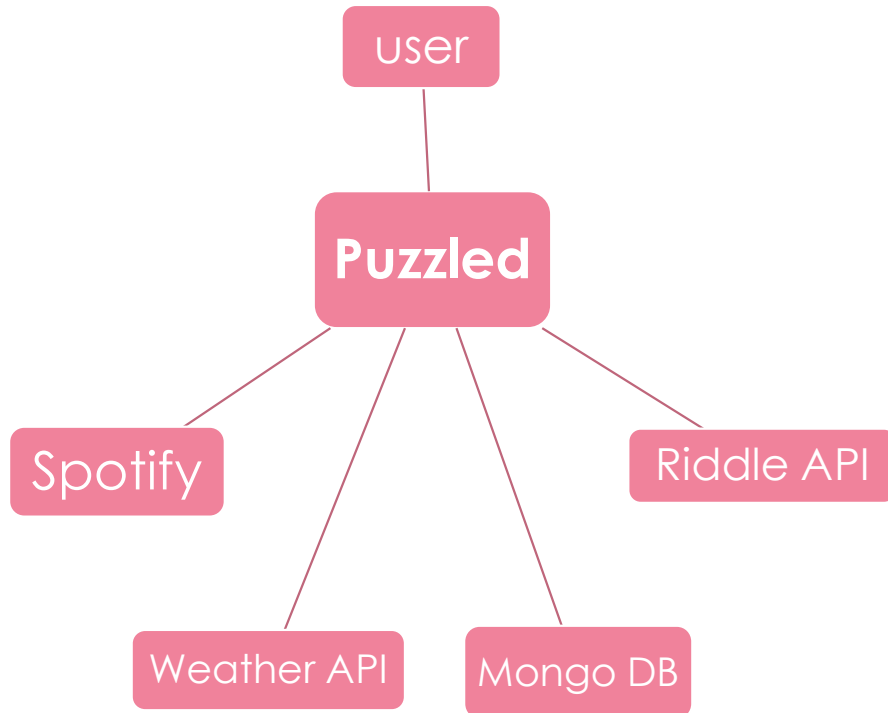
Priority: High

### #3: Weather Api

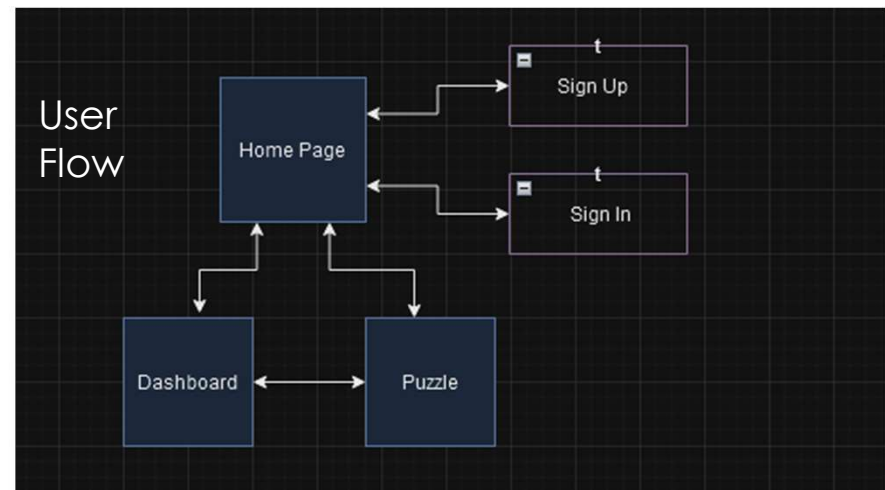
I would like to have a quick weather update while I'm sitting down to take a break and play my puzzle.

Priority: Medium

# ARCHITECTURE DIAGRAMS

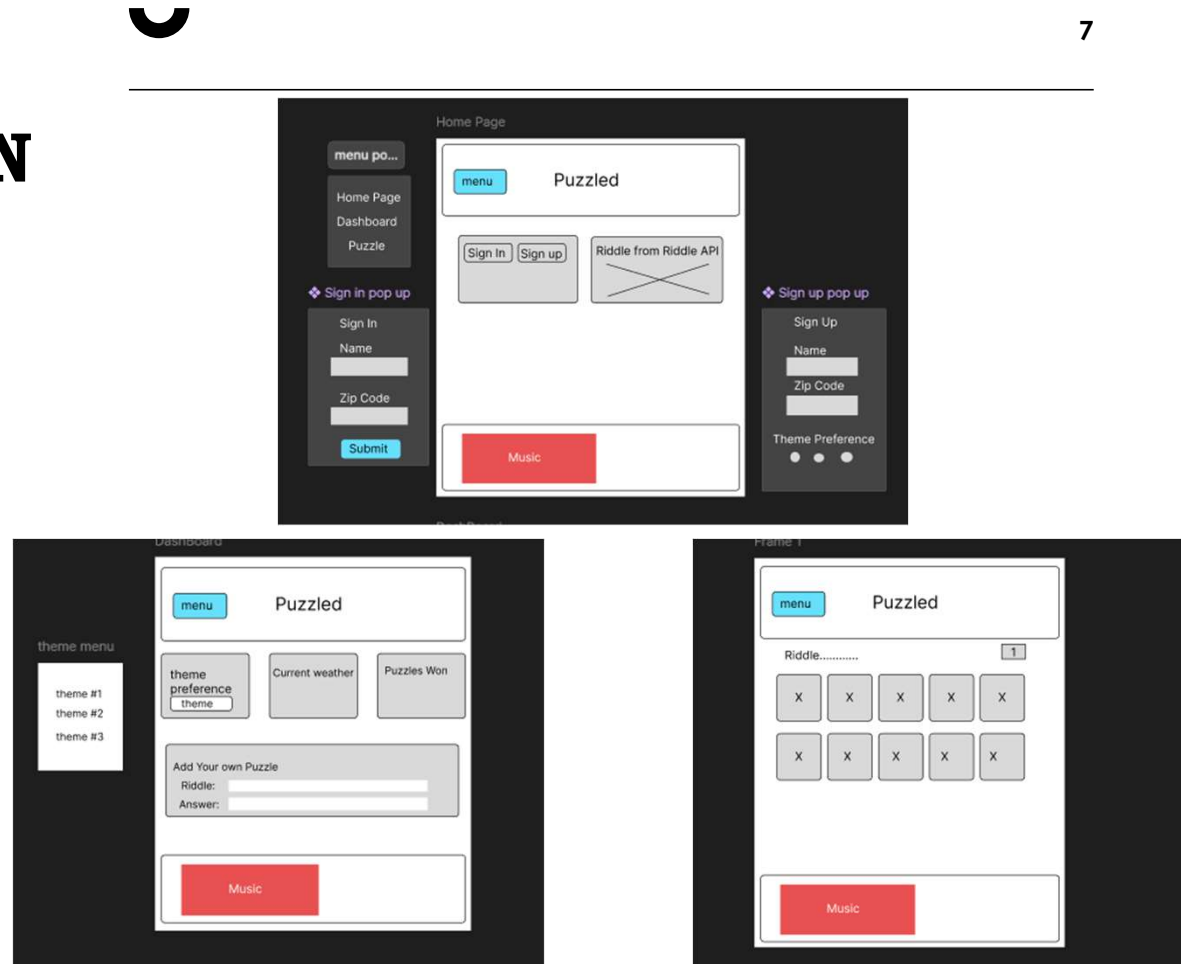


1. User lands on Home Page
2. User clicks on Sign up or Sign in
3. User is redirected to Sign in or Sign up form
4. User submits required details
5. Account is created or recalled.
6. User can play puzzle, check dashboard, and choose music



# LO-FI FIGMA & DATABASE DESIGN

User		Puzzle	
id		number	
name		riddle	
theme		answer	
zipCode		createdAt	
createdAt			
puzzles won			



Check out the full Figma design:

<https://www.figma.com/design/6yqsHVDXX5zrRHM5Lul200/Capstone-Figma-Lo-Fi?node-id=0-1&t=E4Ps7SFILMy4rtA2-1>



## OPEN QUESTIONS

- Spotify API for music recommendations
- Additional Puzzle designs
- Daily relaxation tip

## OUT OF SCOPE

- Additional security and password encryption
- Merchandise Store
- Play with friends
- Sign in with Google credentials



# NON-FUNCTIONAL REQUIREMENTS:

## Key security requirements:

- Password protected login
- Inactivity alert then timeout
- Protected Routes
- This application should be running at all times and available to play.
- Software should be easy to interact with and respond quickly
- Reliability should be high
- This software conforms to MVC structure for ease of maintenance and readability

# PROJECT PLANNING

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The image shows a Trello board for project planning, organized into three columns: Design/ Market Research, App Development, and Presentation. Each column contains several task cards with due dates and progress indicators.

Column	Task	Due Date	Progress	Status
Design/ Market Research	Need?	Aug 20		
	Trello/ Project planning	Aug 20	4/4	
	User Stories	Aug 20	3/3	
	App flow	Aug 21		
	Draw.io database design	Aug 20		
	Lo-fi Figma design	Aug 20		
	platform/ database choice	Aug 21		
App Development	Pages with Routes	Aug 24	10/10	E
	JavaScript for Puzzle	Aug 26	0/4	E
	Set Themes		3/3	E
	external API Fetch and set-up	Aug 30	5/7	
	Linking GitHub/ linked in	Aug 30		
	Testing	Aug 30	5/5	
	Styling	Aug 30	0/6	E
Presentation	PowerPoint design	Aug 30	12/12	E
	documentation	Aug 30	4/4	
	last review and spell check	Aug 30		
	Present!	Aug 31		

# 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

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I plan to Deploy on Vercel and MongoDB atlas

- Cost efficiency
- Ease of use
- Next.js framework



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!

# THANK YOU

By Eva Nummer

GitHub: <https://github.com/effilin/Capstone-Project-IOD>



### ❖ Citations:

Coleman, S. (2023, February 15). *The benefits of puzzle games for mind stimulation and cognitive health*. Medium.

<https://medium.com/@coleman.samuel/the-benefits-of-puzzle-games-for-mind-stimulation-and-cognitive-health-8f6c244a8147>

The New York Times Company. (2023, May 9). *The New York Times games app unveils fresh redesign*. <https://www.nytc.com/press/the-new-york-times-games-app-unveils-fresh-redesign/>

### ❖ Resources:

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/>