CSE 210: TEAM 4 Web-based Developer Toolbox

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Statement Of Purpose

The Problem:

- 1. Inefficiencies in building and optimizing common utility functions.
- 2. Redundancy and repetitive coding tasks.
- 3. Need for reliable, performance-focused solutions without additional costs.

The Solution:

- 1. Reduces repetitive coding, allowing focus on unique project needs.
- Standardizes utility functions for consistency and reliability.
- 3. Curated for performance and best practices, eliminating inefficiencies.
- 4. Ensures seamless compatibility across various environments.

Relevant Research On Similar Products

Similar Developer Toolkits exist, however the majority found are either deprecated, paid, or incredibly general.

- DevUtils

- Pros: Many functions are included; Can show top X frequently used functions
- Cons: Has a ton of tools but no categorization or way of saving favorite functions; needs subscription

- Developer Toolbox Chrome Extension

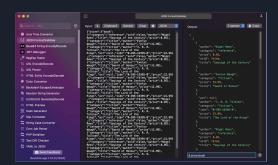
- Pros: Simple Chrome extension, useful in browser
- Cons: Deprecated, small user-base, little amount of tools offered, tools are random

DevBox

- Pros: Many functions included, includes cheat sheets, real-time updates for tool changes
- Cons: Close-sourced, needs to purchase, needs to download a separate application

DeveloperToolbox.app

- Pros: Free, plenty of useful tools, simple design
- Cons: Paid dark mode, too general





User Experience

Home Page

Tool Loading and Interaction

Tool Submission and Results

End / Restart

Action: User lands on the dashboard with all developer tools listed.

Next Step: User clicks a tool.

Action: Selected tool loads on the same page, allowing immediate interaction.

Options: Side panel remains accessible for switching between tools.

Next Step: User performs actions within the tool.

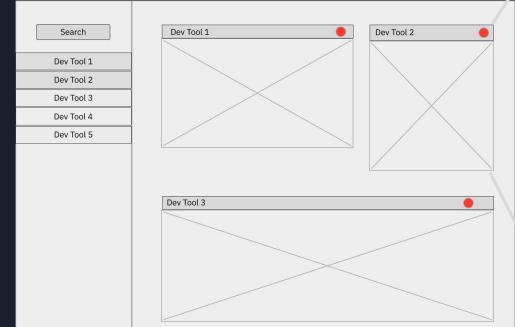
Action: User submits data within the tool and sees results displayed on the same page.

Options: Clear submission or switch tools from the side panel.

Next Step: User may clear results and retry, choose another tool, or exit.

Option: User exits or returns to tool selection on the dashboard.

System Design



JSON Formatter & Validater



{"store":{"book":{{"category":"reference","author":"Nigel Rees","title":"Sayings of the Century","price":8.95},"category":"fiction","author":"Evelyn Waugh","title":"Sword of Honour","price":12.99},"category":"fiction","author":"13. R. R. Tolkien","title":"The Lord of the Rings","ishn":"0-395-19395-8",price":22.99),"bicycle";("color":"red",price":19.95}}}

Parse

```
{
  "store":{
  "book":[
    {
        "category":"reference",
        "author":"Nigel Rees",
        "title":"Sayings of the Century",
        "price":8.95
    },
    {
        "category":"fiction",
        "author":"Evelyn Waugh",
        "title":"Sword of Honour",
        "price":12.99
    },
    {
        "category":"fiction",
        "author":"J. R. R. Tolkien",
        "title":"The Lord of the Rings",
        "isbn":"0-395-19395-8",
        "price":22.99
```

Copy

Features

The features will be a combination of back-end development tools that are commonly used by developers. More features will be added in a modular fashion if time permitting.

Priority

- JSON Formatter
- Regex Generator
- URL encoder/decoder
- UNIX Timestamp Convertor

Time Permitting

- JWT Decoder
- Hash Generator
- SQL Converter

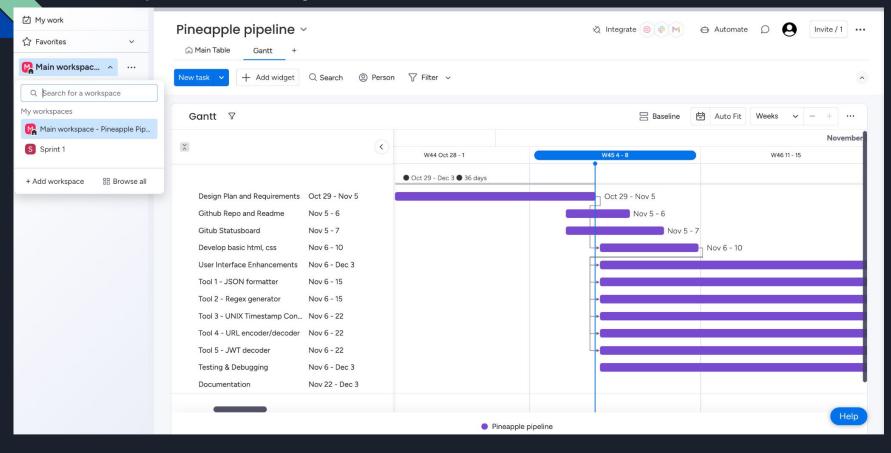
Potential Risks and Rabbit Holes

- Become too focused on individual tools/components and fail to consider the bigger picture
 - Cohesiveness in tools
 - One vision
- Be too ambitious in what tools we want to implement
 - Overly complex tools
 - Our group has limited front end experience
 - Too many tools
- Underestimating how much time it will take to put everything together at the top level

Tools

Front-end Backend Design Markup Javascript Figma for prototyping CSS NodeJS Miro for JavaScript Not storing any user brainstorming, design information, so no ideas, etc. database needed Monday.com for project and workflow management. We'll be migrating to github status board and roadmap soon.

Proposed Project Timeline



ANY QUESTIONS?