**Design, Analysis and Implementation Decisions for Nebula - Junior Coding Community**

**My Initial Designs**

The goal of this project was to design a visually appealing, responsive web app aimed at beginner and junior coders. I wanted to build something that felt fun, encouraging, and community-driven — a space where users could explore content, connect, and grow.

Inspired by the infinite nature of learning to code, I leaned into a space-themed aesthetic. The app needed to look modern and work seamlessly across desktop, tablet, and mobile devices.

The web app includes the following pages:

**Login**

* A clean login form allows users to securely access blog posts and other features.
* The NEBULA logo appears at the top left for branding consistency and in the middle on smaller mobile devices.
* Navigation buttons use JavaScript enhancements for interactivity and responsiveness.
* Flask-WTF is used for form validation and CSRF protection.
* DumbShelf is used for user storage in this small-scale app.

**Create An Account**

* The registration page’s design is similar to the login page.
* Flask-WTF handles input validation for user creation (password matching & email validation).
* Navigation buttons use JavaScript enhancements for interactivity and responsiveness.

**Home Page**

• The web app’s main page after login - an area to share posts, ideas, and encouragement.

• Users can create posts using Flask-WTF, which are saved using DumbShelf.

• Posts include author, timestamp, content, like count, and optional comments.

• Like and comment functionality uses both Python and AJAX (via JavaScript) to keep things time-efficient.

**Merchandise Page**

• Responsive product grid showcasing NEBULA-themed items (shirts, mugs, etc.).

• “Add to Cart” buttons allow for quick selection. LocalStorage is used to persist the cart between page loads.

• A cart dropdown shows selected items, quantity, and total price.

* Pricing is displayed dynamically, formatted to two decimal places using JavaScript.
* As no database is in place, when the checkout button is clicked, it displays a custom error 404 page.

**Resources Page**

**•** A list of beginner-friendly coding resources, organised for quick access, along with two featured tutorial videos.

• This page is only accessible to logged-in users, keeping the content focused and relevant to engaged learners.

* The goal is to give junior developers a helping hand— from documentation to tutorials and interactive platforms — all in one place.

**Main design features**

For NEBULA, I went with a dark, space-inspired theme to capture the idea of exploration and growth. The main background features a starry Milky Way image, with deep purples, pinks, and navy tones. To keep things readable and visually balanced, I used soft whites and brighter purples for text, icons, and borders.

The “Login” and “Create An Account” page have a simple design and form layout, using Javascript and Python for functionality and validation. Clean, simplified buttons allow for easy user navigation.

Action buttons like “Post,” “Comment,” and “Add to Cart” use bold accent colours such as electric blue and violet, helping them stand out without overwhelming the design. These choices were made with both accessibility and aesthetics in mind, making it easy for users to navigate and interact with the site.

I designed the NEBULA logo myself using Canva, and created separate versions for desktop and mobile to make sure it stays sharp and clear across all devices. It sits in the top-left corner of the page, with navigation links to the right — a layout that feels clean and balanced, especially when paired with the responsive hamburger menu on smaller screens.

The Resources page was designed to be clean and easy to scan, with each resource presented in its own card-style layout. The goal here was to give junior developers a quick and organised way to find helpful tools and tutorials, without feeling overwhelmed.

The Merchandise page uses a responsive grid layout to display products like t-shirts, mugs, and hats. Each product is shown with an image, name, and price. Images were created by myself using an online image generator. The “Add to Cart” button on each product is styled consistently across all items, with cart updates handled smoothly through JavaScript. A cart dropdown in the header gives users a quick view of their selected items and total price. The design allows full functionality whilst being visually appealing to the user across all devices.

**My Development Process**

**Challenges faced during development**