

Reflection


This coding assignment has been an incredibly enriching experience, teaching me how to code and make use of my personal motivations with code. For the context of this project, when asked to create a prototype that can respond to a practical problem, I instantly thought of my personal experience of working with children. Working in an environment where I get to meet children with various learning challenges, I thought it would be appropriate to create a prototype that can aim to meet the needs of such children. Therefore throughout this project, using my new found coding abilities, I created a children's colouring book aimed to assist those with learning delays. I have developed a greater understanding of how to create engaging interfaces that balance simplicity with interactivity, enhancing the user experience for young learners. This project has been instrumental in helping me understand the fundamentals of coding and how each line of code plays a vital role in creating functional, interactive programs. I began to see it as a way to solve problems and build experiences. I learned how different functions work together to create a seamless user experience, working with interactive elements in ways that are both visually engaging and easy to navigate.

Additionally, focusing on accessibility has highlighted the potential of technology to support diverse learning needs, inspiring me to consider inclusivity as a core aspect of my future projects. Overall, this assignment has strengthened both my coding knowledge and my appreciation for the impact that educational tools can have on young users.

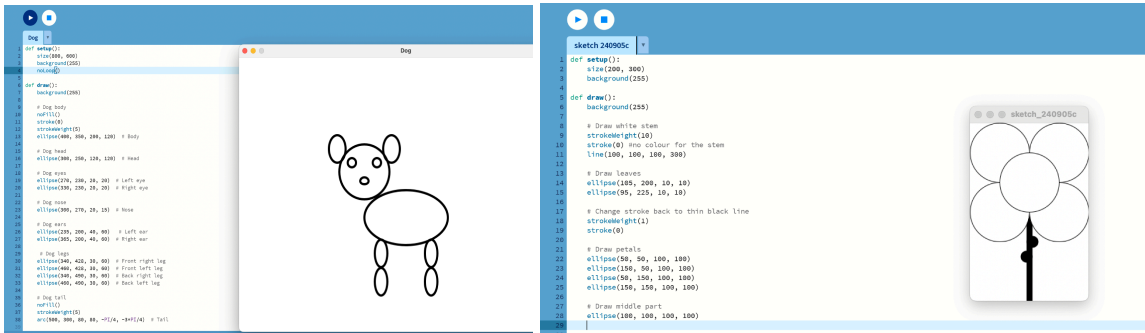
This coding experience relates to themes of accessibility and inclusivity, understanding the importance of critical events such as a rise in digital technology. This coding project, for me, highlights the importance of customised learning tools to support diverse needs, especially for children with learning disabilities or developmental delays. This project, by creating an interactive and flexible digital colouring book, aligns with these ideas, as it seeks to make learning both accessible and enjoyable for all children. After receiving constructive feedback from a classmate, I simplified various pages such as the contents page, to display a sense of accessibility for young children rather than overcomplicating the page.

Throughout my coding project I understood how *“Codes relationship to the real word is indirect”* (Berry, 2011). Berry discusses the philosophy behind software, arguing that code shapes how we engage with the digital world. This perspective is useful for reflecting on how learning code connects to broader intellectual and social frameworks which I can use in the future.

Moreover, when deciding what kind of coding language I would use for my project, I took into consideration the ‘TIOBE index’ which stated that ‘Python is easy to learn and secure’ (TIOBE, 2024). I decided to use python mode in processing as i could create images easily as well as also including a sense of animation with moving text. The python design challenges which were set in tutorials assisted me with my project, allowing me to practise creating simple images using mostly lines, which was a main aspect of my colouring book. Additionally, learning python visually allowed me to navigate python on processing effectively. I enjoyed using python through the processing app as it comes with “preexisting code, organised into 'modules,' that you can reuse ” (Ford, 2015). Therefore for each section of my project, such as text and images, I was able to reuse coding language which made the process easier.

Oct 2024	Oct 2023	Change	Programming Language	Ratings	Change
1	1		 Python	21.90%	+7.08%

These were some of the practice drawings of simple images using lines and shapes I created on processing which were in my journal.



Additionally, when creating my project I took inspiration from the book, *Geometric Computation: Foundations for Design* (Ko & Steinfeld, 2018). The book allowed me to understand design computation in relation to coding. By discussing how computational approaches allow designers to think outside the box, I was inspired to perceive new solutions, encouraging a mindset oriented toward creative problem-solving. The book's focus on developing both coding and geometric intuition reflects a broader trend in digital literacy, where computation is seen as essential for flexibility and creativity in design (Ko & Steinfeld, 2018). I integrated similar principles into my project, therefore guiding me to create more intuitive, adaptable digital designs.

Furthermore, OOP Concepts (Silva, 2023) explains principles such as abstraction, inheritance, polymorphism, and encapsulation highlighting how OOP promotes organised code by allowing users to model complex systems in more manageable, real-world terms. This was helpful throughout my colouring book project, as the OOP principles helped to simplify various features of my code such as moving between pages, reusing code (inheritance), and controlling access to features (encapsulation) (Silva, 2023).

Here is an example of a repetition of code (inheritance), inorder to switch between pages

```
# Draw a simple forward arrow button at the bottom right of the page
def draw_arrow():
    fill(0) # Black arrow
    noStroke()
    triangle(width - 50, height - 50, width - 30, height - 30, width - 50, height - 10)

# Draw a simple backward arrow button at the bottom left of the page
def draw_backward_arrow():
    fill(0) # Black arrow
    noStroke()
    triangle(50, height - 50, 30, height - 30, 50, height - 10)
```

The critical insights I gained from this project have laid a strong foundation for my future in coding, particularly in designing user-centred, accessible digital experiences. I have learned how important it is to consider usability from the start, ensuring that interactive elements like navigation buttons and visual cues are both intuitive and effective for a wide audience. This experience has taught me that good code goes beyond just functioning correctly; it also requires thoughtful design that prioritises the user's experience and adapts to their needs. Coding is important because it enables us to create solutions that address real-world challenges. As mentioned within class tutorials; to understand the world today, we need to understand code. Coding skills empower individuals to turn ideas into functional, interactive experiences, bridging gaps in communication and accessibility and offering tools to people across all abilities and backgrounds.

This project has also underscored the significance of creating adaptable code, which I now recognize as essential for developing software that can grow with users' needs. These lessons in usability, accessibility, and adaptability will guide my approach to future coding challenges, whether I'm creating educational tools, interactive interfaces, or broader applications focused on user engagement and inclusivity.

As technology becomes increasingly embedded in our lives, knowing how to code opens doors to opportunities for both personal and societal impact; “*as code is constantly evolving, as new technologies are developed and introduced*” (Berry, 2011). Therefore making coding a crucial skill for building a more inclusive and connected future.

References

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