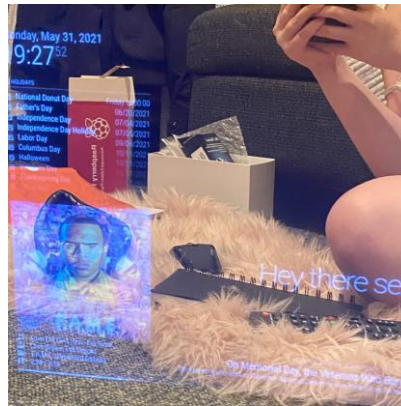# Smart Mirror Prototype 1

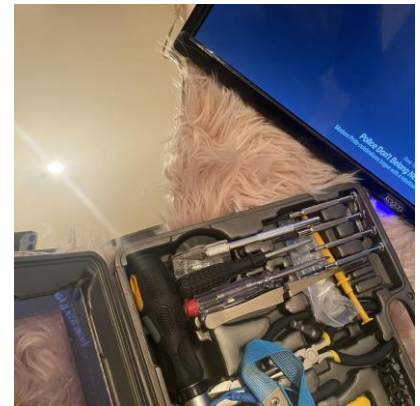**By: Michaela Reyes**   **Advisor: Clement Swarnappa**   **Client: Michaela Reyes**

The PC components of the product

Final product

Other components and tools

INTRODUCTION

The Smart Mirror Prototype 1 project was undertaken to address a niche in the smart mirror market. The primary goal of this project is to develop and produce a custom-made smart mirror product with integrated AI and IoT solutions to essentially begin my business *Mirror Mirror*.

The prototype will be used to show potential customers some of the features that will be available to them; some will be Entertainment, Health, Finance, and Utility based. As of today, there is no other business in New Zealand that specializes in the development and production of smart mirrors with integrated IoT and AI solutions.

DEVELOPMENT

Once the project bid had been approved, I explored potential project management methodologies and decided to use the Waterfall model in combination with Magic Mirror's methodologies – this entails splitting all of the tasks into 5 phases and completing them consequentially: initiation, planning, execution/testing, and closing.

The initiation phase entailed producing a project contract, gathering requirements, and setting documentation and practice standards to ensure consistency in project management.

The planning phase entailed conducting research and comparative analysis, performing product analysis and design, and finalising the who, what, when, where, and how of the project with a conclusive event timeline in the form of a GANT chart and other documentation such as a Business Case, Scope Statement, and Budget Statement.

The execution phase focused on product development and testing. I followed Magic Mirror's development methodologies as it is the only open-source smart mirror platform available in New Zealand.

For software components, I used Raspberry Pi 4 as the main computing device and kept the Raspbian operating system as it is the most compatible OS for Magic Mirror – this means that all configuration was Linux-based and done through the terminal.

The hardware components included an LCD screen with USB and HDMI hubs, a double-sided acrylic glass, a mini-keyboard, and a mini-microphone, a frame was also created from scratch which means this project involved intermediate-level woodwork. Once all of the software and hardware components have been combined and framed, the final product was completed.

CONCLUSION

Overall, The Smart Mirror Prototype 1 project failed some project-management based deliverables, but reached all product-development milestones and achieved the primary goal of the project which is to produce a smart mirror with integrated IoT and AI solutions. The biggest risk of this project was its solo-nature, and it is the primary cause for many of the difficulties that arose during the project.

Despite the challenges, I learned a lot about the importance of collaboration and the positive results of extensive planning, and I anticipate a successful delivery of the major project outcomes to other stakeholders, and potential clients.