Our approach was influenced by Norman's principles of user-centred design, which emphasise the importance of designing for real user needs and creating intuitive, easy-to-use interfaces. This theoretical foundation guided our iterative design process and the continuous refinement of our personas and mental models. The Design Thinking framework also guided us during this project, imploring us to empathise with users, define problems, ideate solutions, prototype, and test.

Before we set about designing our smart mirror product, we had to gain an understanding of the market, the target demographic, and the goals that users of related products wished to achieve. Understanding our target demographic's perceptions and responses that result from the use or anticipated use of related products was key in helping us design our product. We needed to create a considerate product that cares about our users' likes, dislikes, habits, and preferences while being discreet and able to anticipate their needs. Since we were designing a mirror, it was important that our product was self-confident and projected this self-confidence onto our users. After conducting market research, it became clear that users valued a functional, durable mirror with extra features such as integration and personalisation, something that was lacking in the market at present.

Our target demographic was younger adults, whose end goals with a smart mirror included being more productive and organised with life goals of being more efficient with their time while feeling more self-confident. I split this demographic into subgroups to build out our personas (Group 5 Initial Design Report.pdf, pg 12). These personas are abstract user models that capture the most salient user attitudes, desires, needs, relationships, and behaviours. The subgroups were created to cater the product to the needs of the varying experiences, end goals, and life goals of our target demographic. We decided that there was a niche in the market for a smart mirror that helped users with their morning routines. We built all this information we gathered into our initial mental models (User Tasks- Initial Mental Models\_supplementary.docx) and initial personas (User Personas Cody old.pdf, User Personas Cody old.pdf). These formed the basis of our design. We also included a persona with accessibility issues (Supplementary Persona\_accessibility.pdf) as we felt it was important to cater to the needs of all potential users. We were unable to keep this persona as we could not validate it with our user group, but we will keep accessibility features in mind moving forward.

We wrote the survey questions using the market research and subsequent user mental models and personas. Surveys are useful when the goal is to gather preference information as well as users’ behaviours and patterns. The survey allowed us to gather quantitative and qualitative data that we could analyse and use to help further shape our design. In a real-world scenario, I would have liked to observe a group of users using an existing smart mirror to see first-hand their behaviours, patterns, and frustrations to give better insights into how the product should interact with them. One limitation of our survey was the small sample size. The results may not give an accurate representation of the wants, needs and behaviours of our target demographic but it had to suffice for this project.

Once the survey was completed, we analysed the response data using means and confidence intervals to interpret the goals, needs, and frustrations of our user group. We used quantitative questions in the form of a Likert scale that are closed-ended and designed to collect numerical data for statistical analysis. We also included some qualitative, open-ended, and exploratory questions to understand the behaviours of our user group. These focused on the users' morning routine habits and frustrations. We felt this would give us better insights into our users and we did not want to skew the data by placing biased answers in front of them that would simply exist just to validate our pre-conceptions. We found that our users' life goals were motivation and drive, health and wellness, and organisation and efficiency. The main experience goal our user group wished to receive was a feeling of calm and relaxation. This showed the value of the survey as it was not an initial primary goal, but we refined our design by including it in the updated personas (Group 5 Initial Design Report.pdf, pgs 34-36), highlighting the importance of an iterative design process. After our survey analysis, we refined our user goals and personas to better align with both our research and our findings to give the best representation of the behaviours, needs, and wants of our potential users, allowing us to create a product that engaged and satisfied them.

For future design activities, I plan to incorporate user feedback more systematically in the initial stages of projects to allow for a more user-centred approach. I would like to explore further important UX principles in the refined design, such as ethical and legal considerations (privacy and data) and the importance of accessibility. We must also consider the technology expertise level of users and adjust the product to be able to cater to all their needs. We plan to scale our design by creating workflow models, wireframes and prototyping to create the visual layout of our product. We will use our user group to help fine-tune the design. Personally, I would like to gain more exposure to user group studies and statistical analysis in the refined design stage. This project so far has enhanced my understanding of UX, specifically how modelling techniques offer a way of understanding the rich set of goals and constraints that encapsulate the wider environment whilst focusing on designing interactions around the specific needs and goals of users.