# Outline of proposed solution to allow feasibility to be assessed

The solution that we have agreed upon as the basis of our project is designed as assistance to the difficulty that children on the autism spectrum face regarding social interaction, particularly with other children who do not have autism. We have decided to face this issue by designing a simple card game that has similarities with “Top Trumps”. The game will involve physical cards that have a code or image to be scanned by the smartphone or HoloLens device to project a 3-dimensional model using Augmented Reality (AR) technology.

The feasibility of the implementation of the AR technology is high, as using a scannable code or image is less technically challenging than detecting a physical surface such as a table or floor, meaning it is within the scope of a team of students who have little experience with AR technology. The design and implementation of an appropriate user interface is more of a feasibility issue, due to the difficulties autistic children can face with unstructured or cluttered environments combined with the fact that applications that focus on AR (particularly games) can have problems with the UI not integrating with the physical space that is being focused on, for example clipping through surfaces. Due to this issue, there will be a focus on ensuring that these problems are minimised.

# Any significant risks and actions to avoid, reduce or tackle them

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| Risks | Actions taken to reduce them |
| Disagreement on core aspects of the application resulting in wasted development time. | Frequent discussions and meetings to ensure every member of the team consistently agrees on what the core aspects should be. |
| Poor productivity due to distance between deadlines. | Timeboxes will be short and frequent to provide the team with a sense of urgency and ensure that every team member’s individual contribution is accounted for. |
| Scope of the project slowly increases until it is unrealistic to accomplish within the given timeframe. | Robust documentation of the scope of the project that is clear for every team member. Critical analysis of any proposed expansions or major changes to the project. |
| Software has major bugs or unknown issues when close to the final deadline. | Every commit to the GitHub repository will be reviewed by at least two other members to ensure there is minimal bugs/issues. Adequate time will be allocated for testing and bug fixing. |
| Significant pieces of work are lost/destroyed due to external factors, e.g. hard drive corruption. | All work done by the team will be frequently saved and backed up to multiple places such as GitHub and Google Drive. |