

SECV 2113

HUMAN COMPUTER INTERACTION

(Session 2025/2026 Semester 1)

Faculty of Computing
Universiti Teknologi Malaysia

PROJECT 1 – PROJECT PROPOSAL

[Project Title: AI Assisted Mini Visual Projector]

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Idea Introduction



AI Assisted Mini Visual Projector (AIMVP)


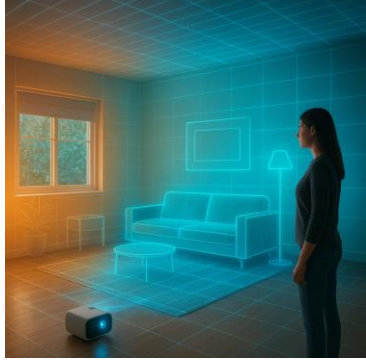


The proposed solution is “AI Assisted Mini Visual Projector”, a portable, AI-driven mini projector that combines:

- Projection Mapping – to map digital designs accurately onto clothes, walls, and product surfaces.
- Holographic Technology – to create 3D-like visuals for more immersive previews.
- Voice and Gesture-Activated AI Assistant– to control the system naturally without complex menus.

This high-level solution is designed to directly address all the identified usability and UX problems.

Below are the summary of the target users, problems faces and how the proposed solution helps the target users:

Target Users	Problems	Proposed Solution
1) Clothing Retailers & Customers	 <ol style="list-style-type: none">1) Users spend lots of time trying on clothes physically to see how it looks.2) Poor feedback on sizing and color from online shopping.3) Users often feel unsure, frustrated and regret their choices, hence leading to clothes waste.	 <p>Users can stand in front of the projector wearing a plain base outfit. AIMVP instantly projects different designs (colours, patterns, cuts) onto the fabric, reducing the need to physically change clothes many times. Projection mapping adjusts to the user’s body and movement, giving a realistic, real-time preview.</p>

<p>2) Interior Designers & Clients</p>	 <ol style="list-style-type: none"> 1) Interior designs are often presented on paper and laptop which doesn't represent the actual visual on wall or space they will appear. 2) Clients are not familiar with design tools and gimmicks, struggle to understand technical drawings and their representations. 3) Most of the time there are a lot of rework to be done as the final result does not meet the expectations envisioned that might due to miscommunication between interior designers and clients. 	 <p>AIMVP scans the room and projects different wall colours, furniture silhouettes and lighting directly onto the actual walls and floors. Clients no longer need to interpret complex drawings; they simply see the design appear in their real space. Holographic and projected visuals make design presentations feel modern, immersive and impressive.</p>
<p>3) Collectible Product Manufacturers & Collectors</p>	 <ol style="list-style-type: none"> 1) Manufacturers or product designers have to source for various type of materials to fulfil the needs of different design desired by collectors. 2) Different design would require a separate item which would leads to overproduction of such products but with various different type of designs. 	 <p>AIMVP projects logos, graphics and colour schemes onto one standard physical template product (plain t-shirt, box, figure, etc.), letting teams visualise multiple designs on the same object. Stakeholders can switch between designs using voice/gesture controls without printing new samples, speeding up the review cycle.</p>

The Sustainable Development Goals our proposed idea tackle are the SDG 12 which is the responsible consumption and production by making careful planned consumption and production of products and reduce unnecessary waste, thus it indirectly helps the SDG 13 which is the climate action by reducing carbon footprint from unnecessary production and waste management.