

UNIVERSITY TEKNOLOGI MARA

**FLOOD SOLUTION : VIRTUAL
REALITY SERIOUS GAME OF
FLOOD RISK MITIGATION
AWARENESS (IMMERSIVE)**

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ABSTRACT

This project aims to design an immersive virtual reality game tailored for Malaysian adolescents and young adults, with a focus on flood risk mitigation awareness. The primary objective is to enhance flood preparedness and minimize consequences in Malaysia. By targeting this demographic, the project aims to instil proactive mindsets and provide crucial pre, during, and post-flood risk management skills. The chosen methodology, the Game Development Life Cycle (GDLC), drives a comprehensive and iterative game creation process. This methodology ensures the seamless integration of flood risk training components, enabling players to navigate through various stages of a flood event. To assess the game's effectiveness and user satisfaction, the Game Experience Questionnaire (GEQ) was employed. Preliminary results indicate positive feedback from testers, validating the potential impact of the game. However, certain limitations are acknowledged, including a constrained sample size, inadequate consideration of variables, and reports of motion sickness among users, necessitating further investigation. Future research directions encompass a more extensive and diverse participant pool, addressing motion sickness concerns through enhanced VR design and user comfort strategies. The proposal to introduce player-driven content holds promise for increased engagement and relevance. Ultimately, this project holds the potential to empower Malaysian youth by fostering flood risk awareness and proactive risk management behaviours. By merging technological innovation with social responsibility, the project underscores the transformative power of virtual reality as an educational tool. As the project advances, its broader implications for effective disaster preparedness and education come to the forefront.

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