

AI Assisted Tool for the Design of Immersive Game-Based Learning Applications

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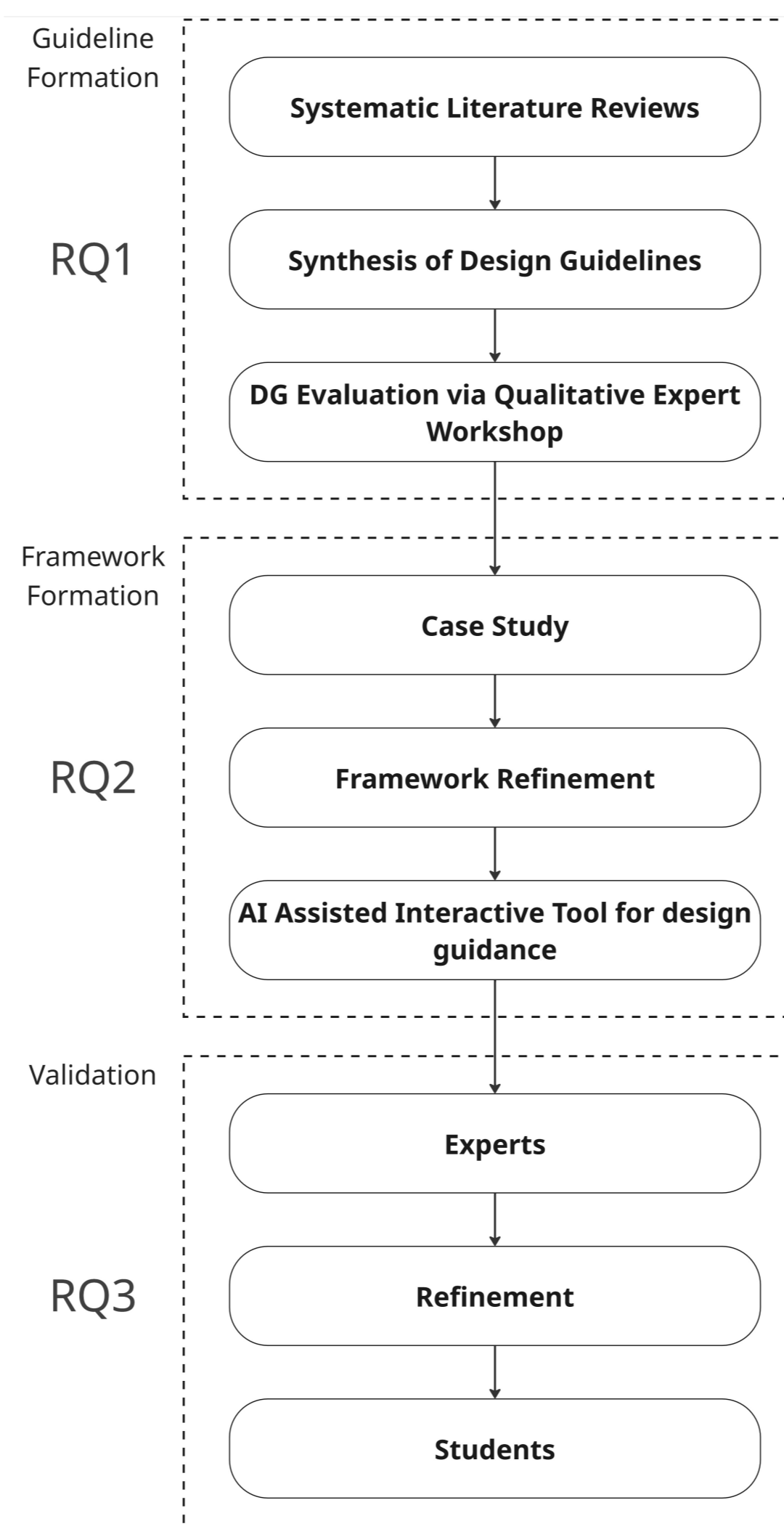
1. Introduction

Immersive game-based learning (iGBL) offers powerful educational experiences. However, existing immersive learning frameworks are largely theoretical, which, although important, fail to address practical aspects to support the design of iGBL [1]. The lack of practical, actionable design guidance extends to iGBL, which presents additional design complexities. This research bridges the gap by synthesising 101 design guidelines from the literature into a framework and an AI-assisted interactive tool for iGBL design.

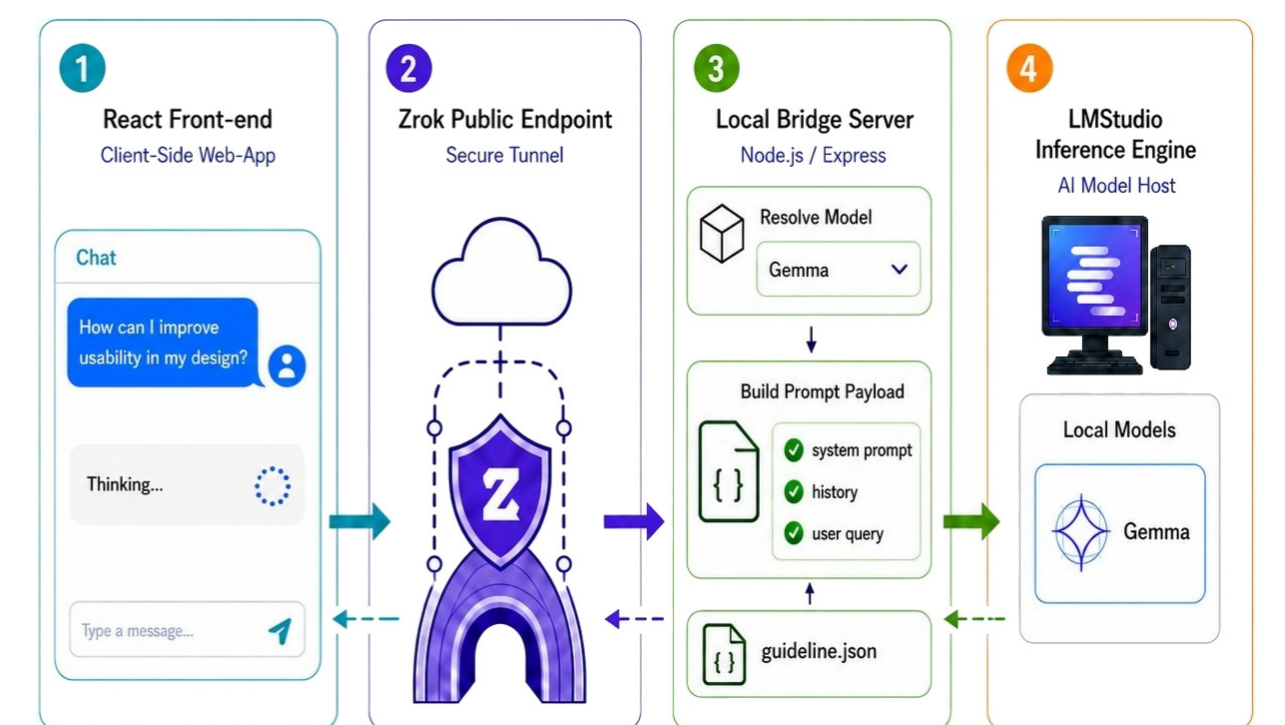
2. Research Questions

- RQ1.** How can design guidelines for iGBL applications be formulated and structured into a framework that supports the design of iGBL applications?
- RQ2.** How can the framework be made practical and functional to support iGBL development?
- RQ3.** How practical and usable is the framework in an educational setting?

3. Methodology

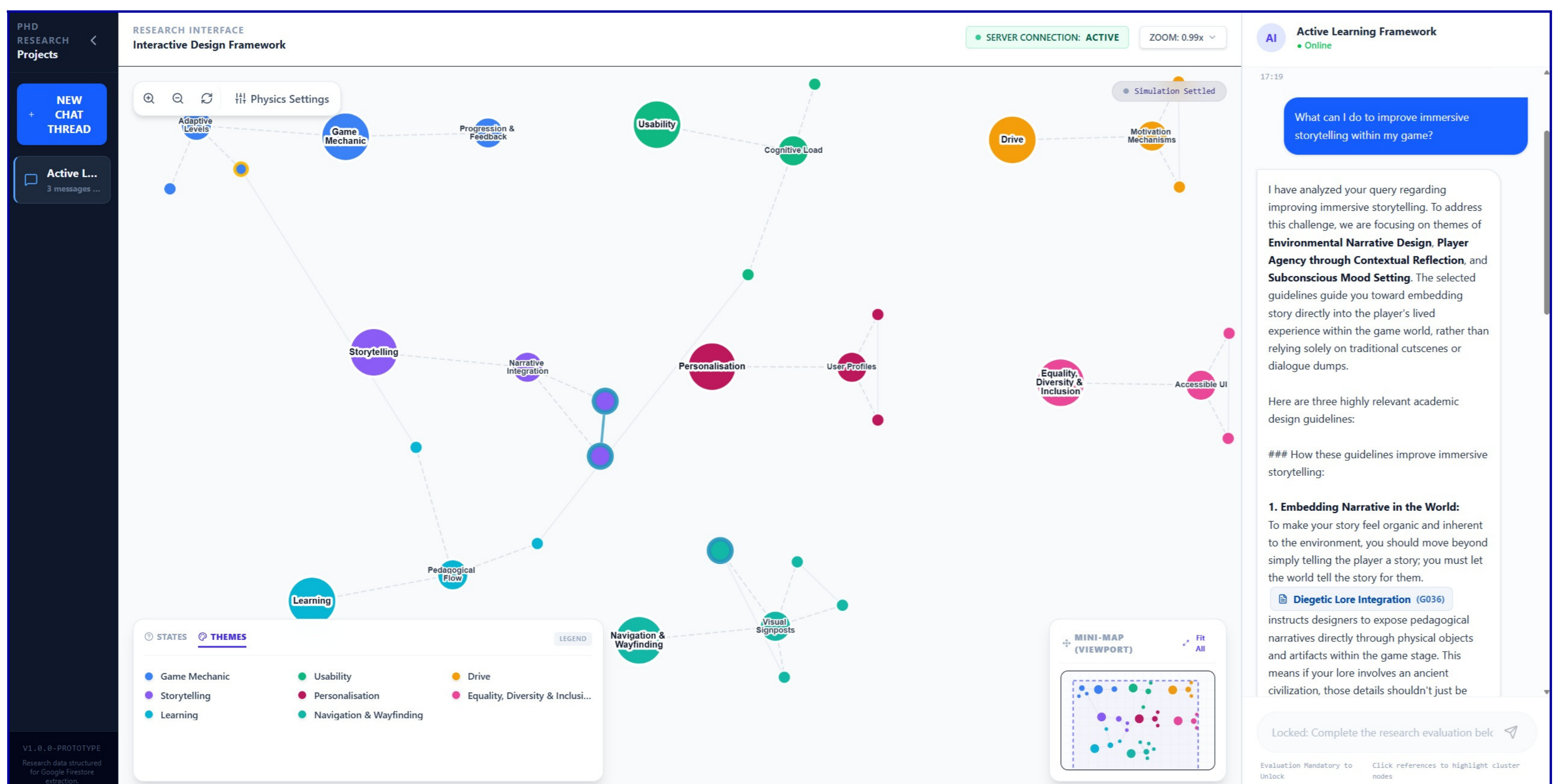


4. Implementation



5. Conclusions

This work presents the development of an AI tool for iGBL design grounded on academic literature. The case study showed that the guidelines framework improved the design process efficiency and clarity, but highlighted the need of an interactive tool to navigate the large number of guidelines. Future work will evaluate the tool with expert designers and students to assess usability and design efficacy in educational settings. This evaluation will inform how effectively the AI-assisted interactive tool bridges the gap between theoretical guidelines and practical, actionable iGBL design and development.



References

- [1] Fernandes, F. A., Rodrigues, C. S. C., Teixeira, E. N., & Werner, C. M. (2023). "Immersive learning frameworks: A systematic literature review." *IEEE Transactions on Learning Technologies*, 16(5), 736-747.