

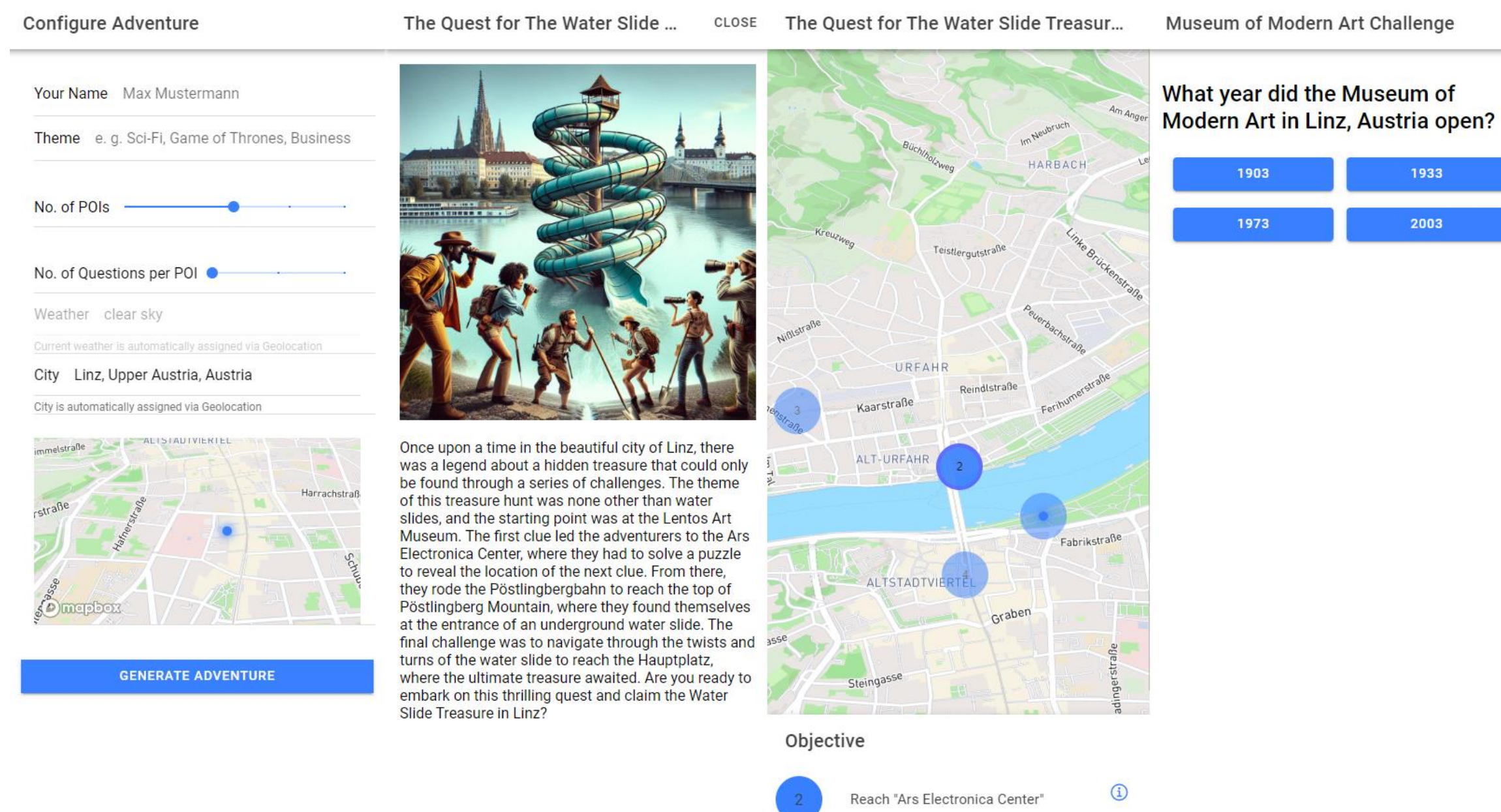
Augmenting Location Based Games with Generative AI

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INTRODUCTION AND MOTIVATION

- Traditional game development relies on **static content**, limiting adaptability and potentially player engagement.
- LBGs (Location Based Games) rely on crowdsourcing or publicly available data for content creation.
- LLMs offer an opportunity for **real-time content generation** in LBGs, driven by the potential for AI to bring **personalization** and adaptability to the gameplay, potentially increasing user engagement and trust in AI-generated content.
- The proposed prototype aims to leverage generative AI to create a **customizable location-based treasure hunt adventure** with generated narratives and user tasks.
- In a study, the generated content is compared to a human-created scenario serving as a baseline.



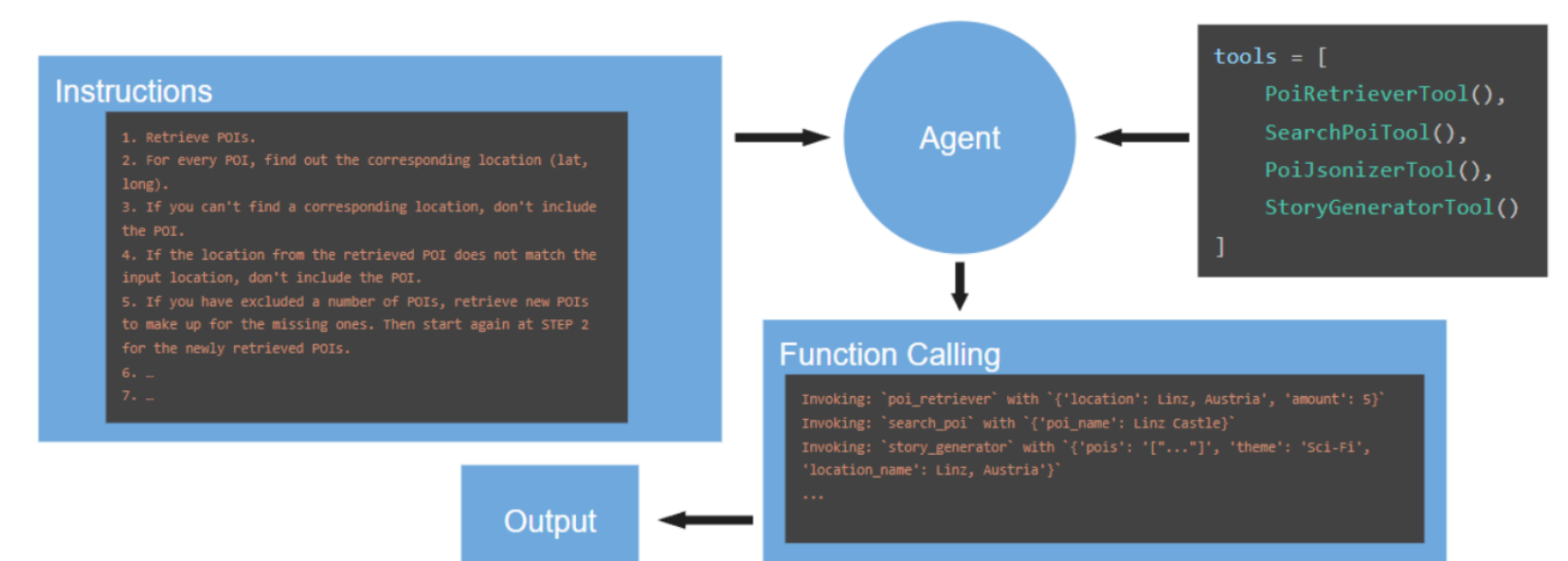
RESEARCH QUESTIONS

- RQ1: To what extent does the AI-generated content **enhance user engagement and immersion** compared to handcrafted experiences in location-based gaming?
- RQ2: How does the average **completion time** of AI-generated treasure hunts compare to that of handcrafted ones, and what factors contribute to any observed differences?
- RQ3: How does **user trust in the accuracy, relevance, and safety** of AI-generated content compare to user trust in handcrafted content in location-based games?

PROTOTYPE AND STUDY DESIGN

LBG Prototype:

- Participant can **log into** the webapp via a provided key.
- Participant **configures** the generated content based on geographical parameters and personal preferences.
- Content is **generated** based on the configuration.
- Participant performs generated and human-created scenarios.
- Participant fills out a **questionnaire** after each scenario.



METRICS

Tracked Data (Quantitative):

- Session Duration:** Overall time spent per user session
- Time-on-Task:** Duration on tasks (Reach POI, Quiz)
- Task Completion Rate**

Questionnaires (Qualitative):

- User Experience Questionnaire
- Human Trust Model

Open Questionnaire

n=15 participants will participate in the study (age >18, diverse range of demographics)

EXPECTED OUTCOME

- Engagement and immersion is increased** due to the customizability and adaptability to the user's preferences.
- The completion of handcrafted experiences goes faster as they are carefully designed to suit location specific properties.
- Users will have the **same amount of trust** in the AI generated experience as they have in the handcrafted one