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Session 6: Immersive technologies in farming

Paper S6.2

Outline

- Background

- Problem Statement

- Research Focus and Approach

- Results and Discussion

- References

- Acknowledgements

Introduction

- Wine industry contribution to GDP (> 36 billion ZAR)

- Challenges faced by wine industry

- Need for various interventions (e.g. using immersive technology)

- Problem
  - Existing/new farmers do not know of the benefits offered by immersive technologies

- Objectives
  - Present immersive technologies as a marketing tool
  - Report benefits of using immersive technologies

Significance and Economic Benefits

Potential benefits for winemakers and wine farms

- Continued business
- Decreased hosting costs
- Always open for business

Potential benefits for end-users (clients, wine sellers, partners)

- Self-navigation
- Decreased travel costs
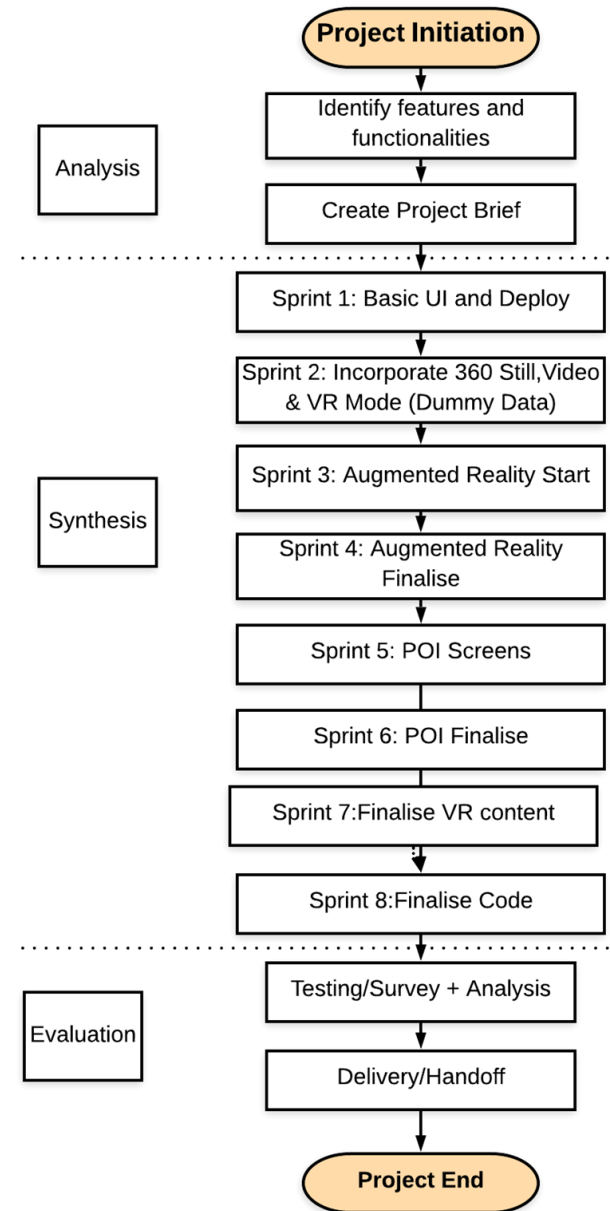- Safe form of tourism during the COVID-19 pandemic

Literature Review – AR/VR in Wine Industry

- Enhancements in degree of fidelity and sensation of virtual presence (Loureiro *et al.*, 2020)
- Escalated requests for wine tourism exercises (Tafel *et al.*, 2020)
- VR has great potential in marketing (Lavoie *et al.*, 2020)
- Limited wine tourism research exists (Booyens, 2020)
- Hence, this research adds to the body of knowledge to promote wine industry
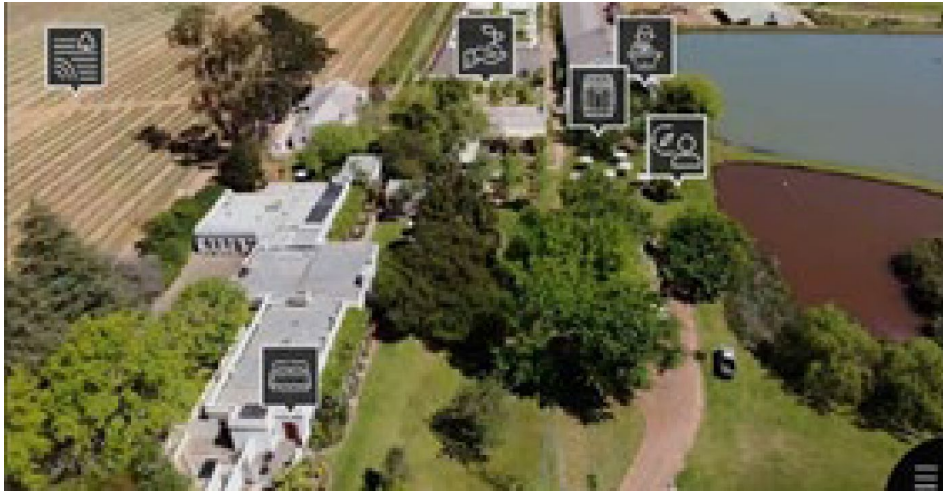
Design Methodology and Implementation

- Agile (SCRUM) methodology
- Participatory design

	Project Initiation
Analysis	Identify features and functionalities
	Create Project Brief
Synthesis	Sprint 1: Basic UI and Deploy
	Sprint 2: Incorporate 360 Still, Video & VR Mode (Dummy Data)
	Sprint 3: Augmented Reality Start
	Sprint 4: Augmented Reality Finalise
	Sprint 5: POI Screens
	Sprint 6: POI Finalise
	Sprint 7: Finalise VR content
	Sprint 8: Finalise Code
Evaluation	Testing/Survey + Analysis
	Delivery/Handoff
	Project End

Results and Discussion

Navigation Hub – Points of interest (POI)

Winemaker explaining winemaking process

Top wine brands selection screen

360-degree exploration in the final app

Evaluation / Client Feedback

- Application evaluated by the client and their partners
- Positive feedback received
- Most important feature : Exploring the Estate
- Suggestions for improvement: Include commercial component

Conclusion and Outlook

- Study demonstrated the potential and benefits of using immersive technologies to showcase wine farms

- New and existing farmers can benefit and enhance marketing strategies, especially in response to the challenges due to Coronavirus pandemic

- Future research
  - Leverage lightweight applications
  - Integrative technologies such as IoT

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Acknowledgements

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Thank you!