

Peak Adventure Experiences: Capstone Presentation

Team: Alonso Garcia, Yahir Espinoza, Jack Morris, Makaela Crookes

Client: Paddy McGarry

Mentor: Ogonna Eli



Introduction

In 2024, 70% of Americans had regrets about moving [1]

- 21% wanted a change
- 18% wanted a better quality of life

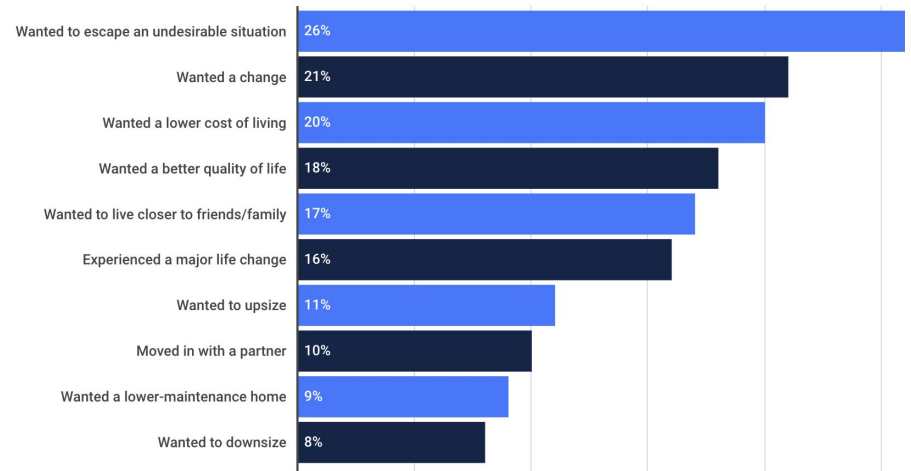


Figure 1: Bar chart of homeowner's relocation reason [1]



Introduction Cont.

Padraic “Paddy” McGarry

- Owner and CEO of The Scouting Party

The Scouting Party

- Flagstaff tours
- Instills confidence in relocating for future homeowners



Figure 2: Paddy McGarry [2]



Problem Statement

Static web page

- Difficulty in conveying core local information
- Limited customizability for each user

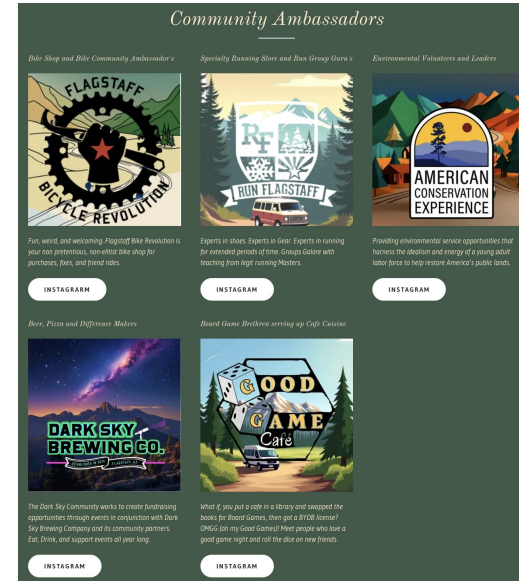


Figure 3: The Scouting Party website with listed community ambassadors [2]



Solution

Virtual Flagstaff:

- Develop a gamified relocation experience
 - Games with potential rewards
 - NPCs with informational dialogue
 - Customer data acquisition



Figure 4: Virtual Flagstaff home screen



Key Requirements

Table 1: Requirements

Functional	Performance	Constraints
<ul style="list-style-type: none">● Gameplay● Customer data acquisition● Game progression● Real-time events in game	<ul style="list-style-type: none">● Receive game data in < 2s● Receive user data in < 1s● Understand how to play game in < 5 min	<ul style="list-style-type: none">● Accessible in browsers● Use reliable real-time data● Ensure stored sensitive data are protected

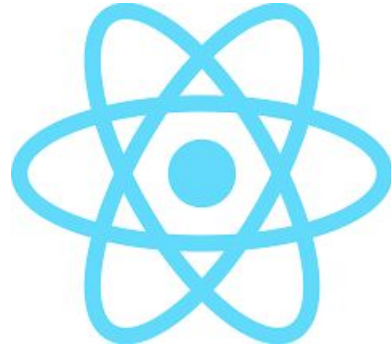


Architecture - Technology Stack



Phaser

- JavaScript game framework
- Versatile & responsive for interactable gameplay



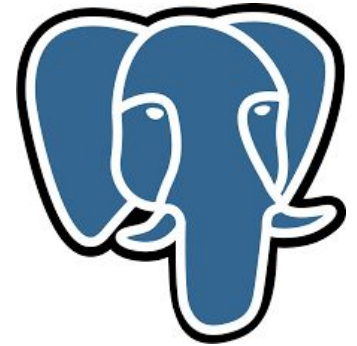
React

- JavaScript web framework
- Responsive for user engagement



FastAPI

- Python RESTful API framework
- Fast and scalable for sending real-time data



PostgreSQL

- Relational database
- Scalable and SQL capabilities for data storage



Architecture - High-Level

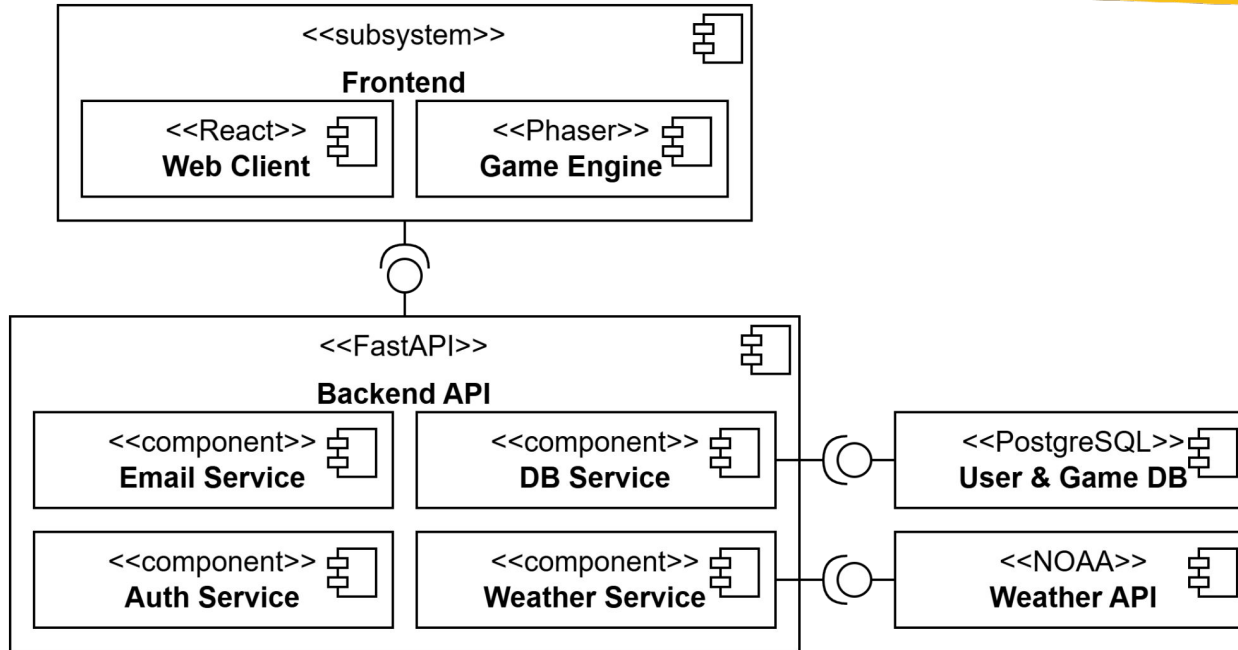


Figure 5: Component diagram of Virtual Flagstaff architecture



Architecture - Design Outcomes

- Gameplay of Virtual Flagstaff
 - Mini-games related to Flagstaff
 - Quests related to Flagstaff
 - Real-time weather
 - History
- Game data received in $< 2s$
- User data received in $< 1s$



Implementation

Table 2: Planned milestones

Milestones	Technology Familiarization	Core Features	Gameplay Systems	Content Expansion
Details	<ul style="list-style-type: none">• Becoming fluent in all technologies• Learning best practices in each technology	<ul style="list-style-type: none">• Customer data acquisition• NPCs• Authentication	<ul style="list-style-type: none">• Tutorial• Quests• Mini-game scores	<ul style="list-style-type: none">• Flagstaff map• Mini-games• Incentives• Game progression



Testing Plan

Unit Testing

- Aimed at validating the backend

Integration Testing

- Aimed at validating frontend to backend communications

Usability Testing

- Aimed at validating frontend and the experience



Prototype Demonstration

<https://www.youtube.com/watch?v=U490BIskRyk>



Challenges

What challenges have come up?

What challenges do we expect?

What risks are we concerned about?

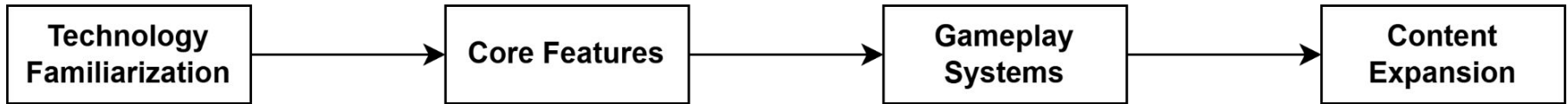


Figure 6: Product roadmap



Resolutions

What plans have we come up with to solve these challenges/avoid these risks?



Future Work

- Expansion of Flagstaff to provide more new content
- Expansion to different areas to provide new virtual experiences

More experiences to enjoy
More places to explore
More information to learn



Conclusion

- Developed a gamified version of Flagstaff
 - Grants users to become familiar with Flagstaff
 - Increases client engagement
 - A tool to boost confidence



Thank you!

Questions?



References

- [1] J. Dunaway-Seale, “2025 data: 70% of Americans have regrets about moving,” Anytime Estimate, <https://anytimeestimate.com/research/moving-trends-2025/>.
- [2] P. McGarry, The Scouting Party, <https://scoutingparty.com/>.

