Ollscoil
Teicneolaíochta
an Atlantaigh

Atlantic
Technological
University

B.Sc. (Hons) in Software Development
Applied Project & Minor Dissertation

Project Proposal

Each student must complete the following form and submit it to their supervisor for consideration. Once your supervisor has signed-off on the proposal, you must submit the document for consideration using Moodle.

1. **Student Name:** Hong Wei Phang
2. **Supervisor Name:** Andrew Beatty
3. **Project Name:** Travel and Tourism App

4. **Project Context**

   Describe the context of the problem domain here. Explain what you are proposing to do and your rationale for doing it. Explain why the problem domain is of interest.

   Context of the Problem Domain: In today's digital age, travel and tourism play a significant role in people's lives. However, planning a trip and exploring new destinations can be overwhelming due to the abundance of information available. Therefore, there is a need for a comprehensive and user-friendly travel and tourism app to assist travelers in making informed decisions.

   Rationale: This project aims to address the challenge of helping travelers plan their trips more efficiently and conveniently. The travel and tourism domain is of interest due to its relevance to a wide user base and the potential for leveraging technology to enhance the travel experience.

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5. Project Objectives

Write out the key objectives of the project as bullet points. Each objective should be clear, realisable and measurable / testable, i.e. the success of your project is determined by the degree to which these are realised.

Create a Cross-Platform Travel and Tourism App: Develop a cross-platform mobile application using Flutter, which provides users with a one-stop solution for exploring, planning, and booking trips.

Provide Destination Information: Offer detailed information on various travel destinations, including attractions, accommodations, and local insights.

User Interaction and Personalization: Implement a user-friendly interface with features like user profiles, reviews, and personalized recommendations.

Integration with Third-Party Services: Incorporate cloud-based services for data storage and external APIs for real-time information, such as weather forecasts and flight details.

AI Chatbot Integration: Include an AI-driven chatbot for user assistance, answering queries, and providing travel advice.

Testing and Deployment: Rigorously test the app for functionality and user experience, and deploy it to both the Google Play Store and Apple App Store.

Marketing and User Feedback: Create a marketing strategy for promoting the app and gather user feedback for continuous improvement.

6. Technologies & System Architecture

Explain the technologies you are going to use and why you selected them. These include the programming languages, operating systems, presentation and storage technologies and any cloud / 3rd party libraries / services that you intend to use.

Programming Language: Dart

Why Dart: Dart is the primary programming language for developing applications using the Flutter framework. It's selected because of its strong support within the Flutter ecosystem. Dart offers a combination of excellent performance and readability, making it suitable for cross-platform app development.

Cross-Platform Framework: Flutter

Why Flutter: Flutter is chosen as the cross-platform framework for several reasons. It provides a unified codebase for both Android and iOS, saving development time and effort. Its rich set of pre-built widgets and a highly customizable user interface make it ideal for creating an engaging and user-friendly travel app. Additionally, Flutter's hot reload feature accelerates the development and testing process.

Operating Systems: Android and iOS

Why Android and iOS: Android and iOS are the two most popular mobile operating systems. By developing the app for both platforms, you ensure a wide user base and maximize market reach. Flutter's ability to compile to both platforms with a single codebase simplifies development.

Presentation Technologies: Flutter Widgets

Why Flutter Widgets: Flutter offers a wide range of pre-designed widgets, making it easier to create a visually appealing and responsive user interface. The customizability of Flutter widgets allows for a unique and user-friendly app design, which is essential for a travel and tourism app.

Storage Technologies: Firebase

Why Firebase: Firebase is chosen for cloud-based data storage for several reasons. It offers real-time database capabilities, which are important for providing users with up-to-date information. Firebase also provides robust authentication and secure data storage, ensuring user data privacy and integrity.

3rd Party Libraries/Services

External APIs: External APIs will be integrated to provide real-time data such as weather forecasts, flight details, and location-based services. These APIs are selected for their accuracy and reliability in delivering timely information to enhance the user experience.

AI Chatbot Service: An AI chatbot service will be integrated into the app to provide users with personalized travel recommendations and assist in answering queries. The specific chatbot service chosen will be based on the availability of suitable AI models and natural language processing capabilities.

The choice of these technologies is based on their suitability for the project's goals, such as cross-platform compatibility, user interface design, data storage, and real-time data access. Additionally, the technologies chosen are well-supported, which ensures that the development process will be efficient and that the app will be maintainable in the long term.

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7. Schedule of Work

Using a Gantt chart or tabular format, outline your schedule of work for all the key project activities, deliverables and dates.

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Activity	Start Date	End Date	Deliverable
Project Initiation	9th Oct	15th Oct	Project Proposal
Set-up (Github, Tech)	16th Oct	22th Oct	Github Repo
UI/UX Design	23th Oct	29th Oct	Design Mockups
Backend Development	30th Oct	12th Nov	Backend System
Frontend Development	13th Nov	19th Nov	Cross-Platform App
Cloud Integration	20th Nov	26th Nov	Cloud Data Storage
Chatbot Integration	27th Nov	3rd Dec	AI Chatbot
Testing & Debugging	4th Dec	10th Dec	Bug-Free App
Deployment	11th Dec	17th Dec	
User Feedback & Iteration	18th Dec	24th Dec	Updated App