TOURISM TECHNOLOGIES COMPETITION PRELIMINARY EVALUATION REPORT TEMPLATE

Project Name: Culture Capsule

Team Level: Undergraduate

Competition Subject Title: Digitalisation of Local Culture and Gastronomy

Team Name: Codeneers

Team ID: 583239

Application ID: 3063758

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1. PROJECT SUMMARY

The project aims to create a mobile and web application to preserve and share Northern Cyprus' cultural heritage. The application will receive traditional recipes, stories about North Cyprus' history, and handicrafts from knowledgeable people. It will use AI models to categorize stories and group-related food recipes. The data will then be shared on both platforms, connecting people worldwide to the region's cultural and culinary traditions.

2. TEAM CHART TASK DISTRIBUTION

NAME	ROLE	TASK
Siphesihle D. Hlongwane	UI Designer and Team Captain	Design of UI flow and overall project coordination
Mofope Daniel Adegoke	Frontend Developer	Website interface development
Dunamis O. Olukayode	Backend Developer	Database integration and backend logic
AyoOluwa J. Owolabi	Mobile Developer	Mobile interface development
Immaculata P. Umoh	AI Specialist	AI tools integration and content filtering
Ali Kaan Gursoy	Tester and Translator	Software testing and translation support

3. EXPLANATION OF THE PROJECT IDEA

3.1 Solution Problem/Need:

"Cultural tourism is described as tourism motivated by a desire to discover, learn about, and enjoy the tangible and intangible cultural values offered in a tourist location "(UNESCO, 2021). It encompasses heritage, performing arts, handicrafts, rituals, and gastronomy which is projected to grow by 15% in the coming years (AIANTA, 2025). Due to the rapid change of political climate, Cyprus is home to countless stories. This project tackles the risk of losing traditional knowledge in Northern Cyprus, such as recipes, historical anecdotes, and handicrafts, as older generations pass away without documenting these practices. This knowledge gap, compounded by the lack of accessible platforms specific to local culture and gastronomy, negatively impacts tourism by limiting authentic cultural experiences for visitors.

Proposed Solution: We propose an AI-enhanced platform that would enable older generations to contribute traditional recipes and poems, stories and handicraft techniques in Turkish. Speech transcription, structuring of anecdotes, and digitization of handwritten recipes will be performed using AI-powered tools. A context-aware translation engine will maintain the depth of culture but adapt it for a worldwide audience through the website and mobile application. This platform is an exciting, AI-driven bridge between past and future generations in connecting the heritage of Northern Cyprus to international recognition and celebration.

Applicability and Realizability: We will create a web-mobile platform that is user-friendly, and intuitive, with effective backend architecture, and AI-powered content management. AI tools will provide speech-to-text transcription, categorization of content, and automatic translation allowing people with any skill level to contribute. The site shall provide easy content uploading by users, accessibility in many languages, and structural preservation of culture. The system will be built on well-known systems to improve realizability. We will use off-the-shelf transcription and translation systems as well as well-known text-categorization methods.

3.2 Innovation and Originality Side

The project is innovative because of the integration of AI technology with traditional knowledge preservation in a manner that no platform has done yet. It deploys AI to speech-to-text transcription, categorization of content, and dialect-aware translations to make it quite easy for the older generation to share their wisdom in a dynamic, accessible, and culturally correct way. This project reflects national and local features by centering on the preservation and promotion of Northern Cyprus' distinct cultural and gastronomic traditions. Its approach ensures that these elements are accessible globally, while still honoring their regional roots. To date, we have not applied this project to any competitions. The project is an original concept tailored to Northern Cyprus's cultural and tourism sector, unlike existing applications or platforms.

3.3 Target Audience of the Project Idea:

The target audience includes:
Older Generations: Primary contributors who share traditional knowledge (65+).
Younger Generations: Learners and cultural enthusiasts interested in preserving local traditions (10+).
Tourists and Cultural Enthusiasts: Global users seeking authentic local content.
The project addresses a wide age range, fostering cross-generational engagement and cultural exchange.

3.4 Competitive Analysis / Commercial Potential:

The project has significant commercial potential in the tourism and cultural heritage sectors due to the growing demand for authentic, local experiences. The global heritage tourism market is expected to grow at a CAGR of 4.5% from 2025 to 2030

(GVR, 2024). A study revealed that culture and heritage tourists spend 38% more per day and stay 22% longer overall compared to other types of travelers (C. Childs, 2014). The project stands out in the competition with its locally specific culinary, and handicrafts traditions. Unlike other apps (e.g., Visit North Cyprus, Cyprus Paradise) that offer broad content without embedding the unique cultural identity of specific regions in Northern Cyprus. Revenue opportunities include targeted advertisements, premium content, and partnerships with local artisans and culinary experts. Collaborations with tourism boards and cultural organizations further support its commercial viability.

4. METHODS TO BE USED:

The **agile** method will be used as the software development approach for this project. This method is the most suitable because it emphasizes iterative development and continuous feedback from end-users (Beck et al., 2001), which aligns perfectly with the project's goals, while allowing for flexibility and adaptability as new requirements emerge.

This project involves key steps, including requirements gathering, planning and design, development, integration, and product testing.

4.1 Algorithms Planned to be Used:

- **Speech-to-Text Algorithm:** This transcribes speech to text for users, especially for older individuals who prefer speaking over typing. Audio is processed by a model which converts audio signals into text and the resulting text is saved and used.
- **Text categorization:** This will be used to categorize the content for easy organization. Data is labeled and a supervised learning model is trained on data so that when a new content is added, the model predicts its category.
- **Search and Retrieval Algorithm:** This helps users search and filter cultural data efficiently. User queries are processed to match content using algorithms, relevance scores are then calculated and the most relevant results are displayed.

4.2 Software Architecture Planned to be Used:

This project will use a **microservices** architecture due to its scalability, flexibility and resilience (Ravi, 2023). Each component—such as content classification, translation, speech-to-text, and search services—can be developed, deployed, and scaled independently.

The front-end will be built with **React.js** for the web, and **Flutter** for the mobile app. For the backend, **Node.js** with **Express** will be used to handle API requests and **MongoDB will** be used as the database.

The chosen technologies—**microservices architecture**, **React.js**, **Flutter**, **Node.js with Express**, and **MongoDB**—are perfectly suited for this project. React.js and Flutter enables efficient and dynamic user interfaces for both web and mobile platforms with a single codebase for mobile. Node.js with Express ensures fast, concurrent processing for API requests, while MongoDB offers a flexible, scalable database to

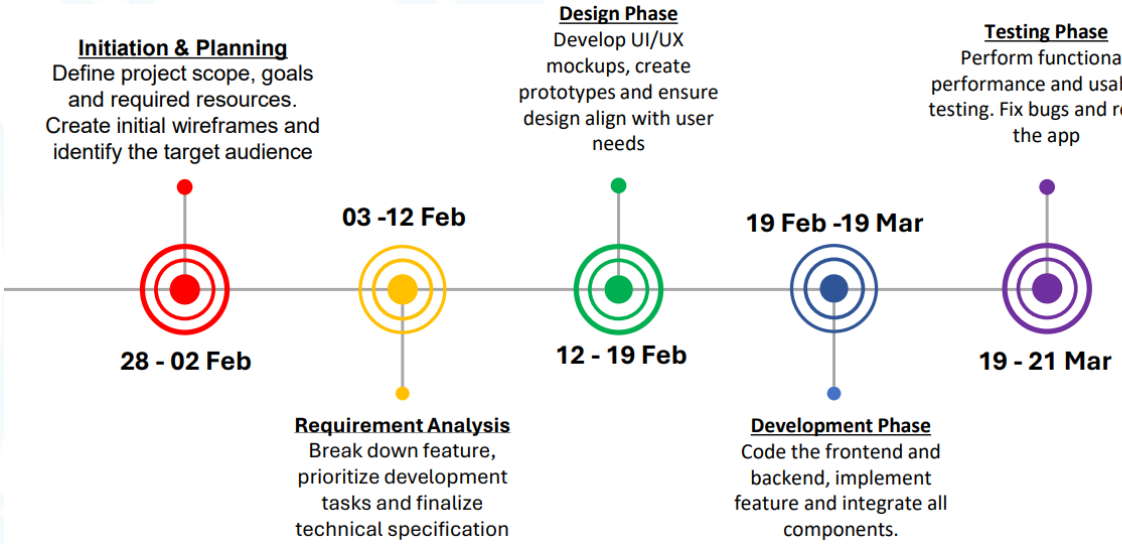
handle diverse cultural content. Together, they form a robust, efficient, and scalable solution for preserving and sharing TRNC's culture.

4.3 Education Materials:

Educational materials will include:

- User guides for mobile and web platforms
- Video tutorials on content contribution and navigation
- Social media campaigns to promote the platform and its benefits

5. PROJECT CALENDAR:



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