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Cultural Awareness Application

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CULTURAL AWARENESS PROJECT

A Project

Presented to the

Faculty of

California State University,

San Bernardino

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

in

Computer Science

by

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Approved by:

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ABSTRACT

In an increasingly interconnected global landscape, cultural awareness and competency have become indispensable skills for individuals and organizations alike. This paper introduces a pioneering cultural awareness application, grounded in the Cultural Orientation Model—a comprehensive framework devised by Dr. Walker [8] to guide individuals in understanding, appreciating, and effectively engaging with diverse cultures. The application encompasses ten primary dimensions, each representing fundamental aspects of social life shared by members of any socio-cultural environment. Through a combination of cultural education, interactive learning, guidance on cultural etiquette, and integration of cultural events, the application aims to foster empathy, tolerance, and effective cross-cultural communication skills. The development stages outlined in this paper detail the meticulous process of conceptualization, prototyping, and pilot testing involving experts, faculty, staff, and students. By leveraging the Cultural Orientation Model, this application seeks to promote cultural understanding, celebrate diversity, and facilitate meaningful connections in an ever-evolving globalized world.

ACKNOWLEDGEMENTS

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CHAPTER ONE

PROJECT OVERVIEW

Introduction

In today's globally interconnected society, the imperative to comprehend and navigate cultural diversity is more pressing than ever. In various spheres such as business, education, and interpersonal relationships, the ability to bridge cultural divides is not merely advantageous but essential for fostering mutual understanding and collaboration. With this in mind, we proudly introduce a groundbreaking cultural awareness application deeply rooted in the Cultural Orientation Model—a comprehensive framework meticulously designed to empower individuals to understand, appreciate, and effectively engage with diverse cultures.

Purpose Of Study

At the core of our application lies the Cultural Orientation Model, conceptualized by Dr. Walker[8]. This model comprises ten primary dimensions, carefully selected based on their significance in social life, universal presence across cultures, and practical utility. These dimensions offer profound insights into various aspects of cultural behavior and interaction, ranging from perceptions of time and space to attitudes towards power dynamics and competitiveness.

Our application is meticulously crafted to facilitate cultural education, interactive learning, guidance on cultural etiquette, and seamless integration of cultural events. Through a rich tapestry of content, dynamic interactive tools, and personalized experiences, users embark on a transformative journey of cultural exploration and understanding. From delving into historical narratives and linguistic variations to understanding traditional practices and contemporary societal norms, our application offers a holistic approach to cultural learning, nurturing empathy, tolerance, and effective cross-cultural communication skills.

In this comprehensive introduction, we will delve into the stages of development for our application, outlining the key activities and objectives at each phase. From the initial conception and prototyping to rigorous pilot testing involving experts, faculty, staff, and students, we will showcase the meticulous process behind the creation of this innovative cultural awareness tool. Join us as we

embark on a journey to promote cultural understanding, celebrate diversity, and foster meaningful connections in an increasingly interconnected world.

Features Of Cultural Awareness

Cultural Education: Enrich users with a diverse array of cultural knowledge, including historical narratives, traditional practices, linguistic variations, religious beliefs, and societal norms. This comprehensive provision of insights fosters a profound appreciation for global diversity, nurturing empathy, tolerance, and facilitating effective cross-cultural communication among individuals.

Interactive Learning: Provide interactive quizzes to captivate users in an engaging and immersive learning journey. Through this dynamic tool, users can actively participate in the exploration of cultural nuances, enhancing retention and understanding while fostering a sense of enjoyment and interactivity.

Cultural Etiquette: Offer guidance on cultural etiquette, assisting users in navigating social interactions with sensitivity and appropriateness. This support ensures that individuals approach diverse cultural contexts with respect and understanding, promoting harmonious relationships and meaningful cross-cultural exchanges.

Cultural Event Calendar: A comprehensive global calendar featuring cultural events, festivals, and holidays from diverse regions. This resource facilitates cultural exploration and celebration, fostering cross-cultural awareness and engagement.

Organization Of Project

The structure for this culminating project is structured as follows: In Chapter 1, an Introduction is provided, followed by sections on Challenges, Background, History, and the Problem Statement. Chapter 2 is devoted to the Literature Review. Chapter 3 elaborates on the Research Methods employed to address the three Research Questions. Chapter 4 presents the three Case Studies, and Chapter 5, which concludes the project, offers a summary along with recommendations, including sections on Discussion, Recommendation, Limitation, and Future Work.

CHAPTER TWO

STAGES

Stage I: Idea And Prototype

The emergence of the term "digitalization" coincided with the rapid advancement of information and communication technologies. During this phase, we focus on brainstorming and conceptualizing the cultural awareness application based on the foundational cultural orientation model. The key components of the model will be identified and translated into features and functionalities for the app. This stage involves extensive research, design work, and prototyping to create a preliminary version of the application that aligns with the overarching goals and principles.

Key Activities:

- Conceptualizing the application's features and functionalities using the cultural orientation model as a guiding framework.
- Defining the core components of the app, such as cultural education, interactive learning, cultural etiquette guidance, and event integration.
- Creating wireframes, mockups, and prototypes to visualize the user interface and experience.

- Developing a prototype of the application to demonstrate its core functionality and potential.

Stage II: Pilot Testing with Experts, Faculty, and Staff

In this stage, the prototype of the cultural awareness application will be piloted with experts, faculty members, and staff who possess expertise in cultural studies or related fields. The focus will be on gathering feedback, evaluating usability, and identifying areas for improvement. This pilot phase allows the team to refine the application based on real-world testing and expert insights, ensuring that it meets the needs and expectations of its target audience.

Key Activities:

- Recruiting participants for the pilot program, including cultural experts, faculty members, and staff.
- Conducting usability testing sessions to gather feedback on the application's interface, functionality, and content.
- Facilitating focus group discussions and interviews to explore user perceptions, preferences, and suggestions for enhancements.
- Analyzing pilot data and feedback to identify strengths, weaknesses, and opportunities for refinement.

Stage III: Pilot Testing with Students

In the final stage, the cultural awareness application will be piloted with students to assess its effectiveness in an educational context. The focus will be on engaging students in cultural learning activities, promoting cross-cultural communication, and gathering feedback on their experiences with the app. This pilot phase provides valuable insights into the application's impact on student learning outcomes and informs further refinements before full-scale deployment.

Key Activities:

- Collaborating with educational institutions to recruit student participants for the pilot program.
- Integrating the application into classroom activities, assignments, or extracurricular programs focused on cultural awareness and diversity.
- Monitoring student engagement with the app and collecting data on their interactions, learning progress, and feedback.
- Conducting surveys, interviews, or focus groups with students to assess their perceptions of the application's usefulness, relevance, and impact on their cultural competency skills.
- Analyzing pilot data and feedback to inform final adjustments and improvements to the application before its official launch.

CHAPTER THREE

REQUIREMENT ANALYSIS

Before any good development, the bare minimum is to understand the requirements and the technologies with their trade off. This helps to divide the tasks for the development and set the right expectations.

Functional Requirements

a. Splash Screen:
    i. Users should be able to see a welcome screen but can skip if they want too as well.
b. Main Screen:
    i. The main screen contains the general information and the navigation cards from which to move back and forth between the options.
    ii. It needs to be user friendly and should work in both major and minor operating systems of mobile devices like iOS and android.
c. Quiz Screen:
    i. The screen should provide an intellectual quiz and testing platform where users can test their knowledge.

ii. Results should be saved in the database.

d. Dimension Screen:
    i. If a user wants to know more about our working model, there should be a provision for that as well.

e. Feedback Screen:
    i. If a user wants to give feedback about anything whether it is a recommendation or if they feel the information is incorrect, they can reach out to us.
    ii. Feedback needs to be stored in the database.
    iii. Scalability and Availability:
    iv. The application must be scalable and capable of handling traffic dynamically while still retaining performance.

Non-Functional Requirements

There are some following non-functional requirements for this project:

a. User-friendly Interface:
    i. The application should provide a user-friendly interface that displays all elements clearly and efficiently.
    ii. The interface should be built using React Native [7] and ReactJS.

b. Backend Development:

    i. For backend development, the application should utilize Firebase[1], an upcoming technology by google.

Constraints And Assumptions

a. Frontend And Backend Development:

According to my skill set, the application will utilize React Native and ReactJS for the frontend, along with Google Firebase[1].

b. Data Storage And Retrieval:

As a part of this project, for the data storage we are going to use firestore, storage database, because firestore is a real time database we can use for retrieving data as well.

CHAPTER FOUR

IMPLEMENTATION

Technology Stack

The frontend of the application is divided into two parts. The mobile application is built for the general people and the admin will use a web application. So, the frontend of our application is built using React Native [7] and ReactJS [4]. While the backend of the application is built using Google Firebase[1] [5]. I deployed both these frontend and backend to Expo[2] using build file for deployment of android and iOS build. All the major APIs of the application related to the people's complaints are google Firebase[1] through generated serverless APIs.

Testing Methodologies

The project employed various testing methodologies to guarantee the quality of its application. Unit testing was carried out using Jest testing framework for backend APIs; integration testing was done via Postman tool for APIs and frontend user interface.

RESULTS

1. Splash Screen

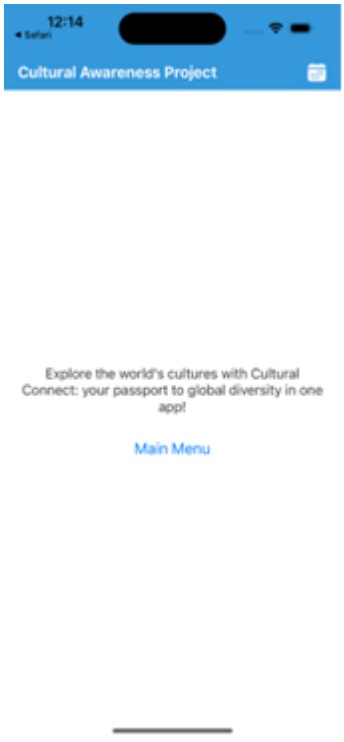

Figure 1. Splash Screen

This is the splash screen of a mobile application. Users can see our motto and ideology behind the application.

2. Main Screen

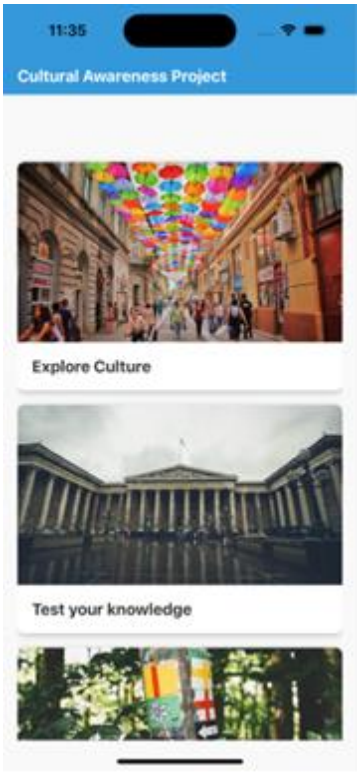

Figure 2. Main Screen

The main screen is the landing page where users will be routed to. This is the main idea of the application: what things to expect and exploring points.

3. Result Screen

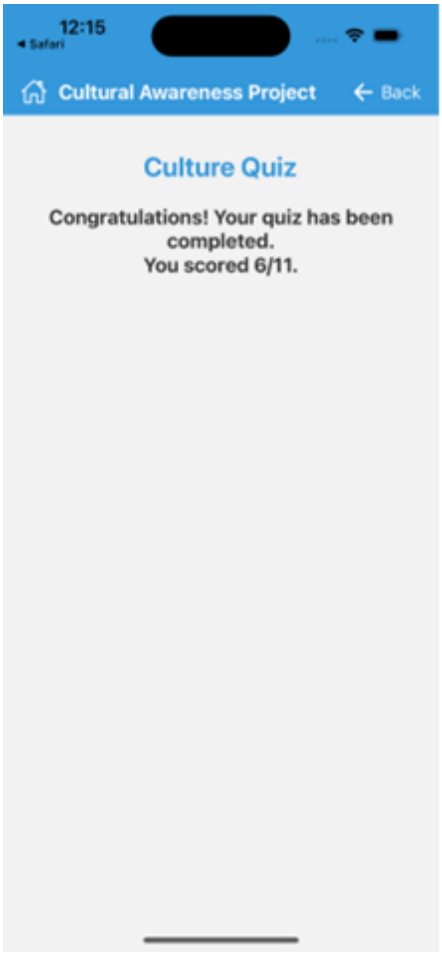

Figure 3. Result Screen

The result screen comes up when the user just finished their test and they can see their score. This score will also be put in the database for the record.

4. Test Your Knowledge Screen

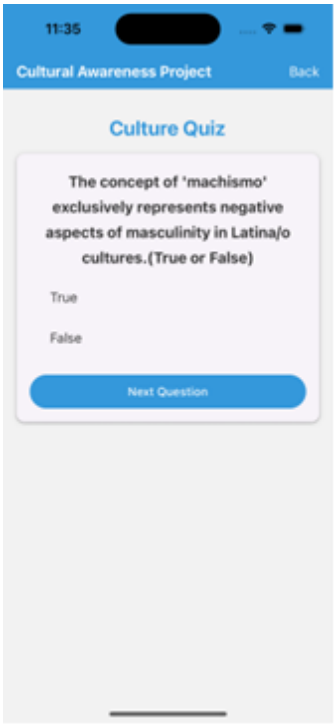

Figure 4. Test Your Knowledge Screen

The test your knowledge screen is nothing but a quiz screen where they can see the questions and test what they know, or they have learnt from the application. This quiz also gives them confidence in their knowledge and perhaps practical knowledge.

5. Region based Screen

Figure 5. Region based Screen

This screen is where users can explore different region and learn about them. This screen also been used as a reusable component for taking test based on the region.

6. Learning Regional Screen:

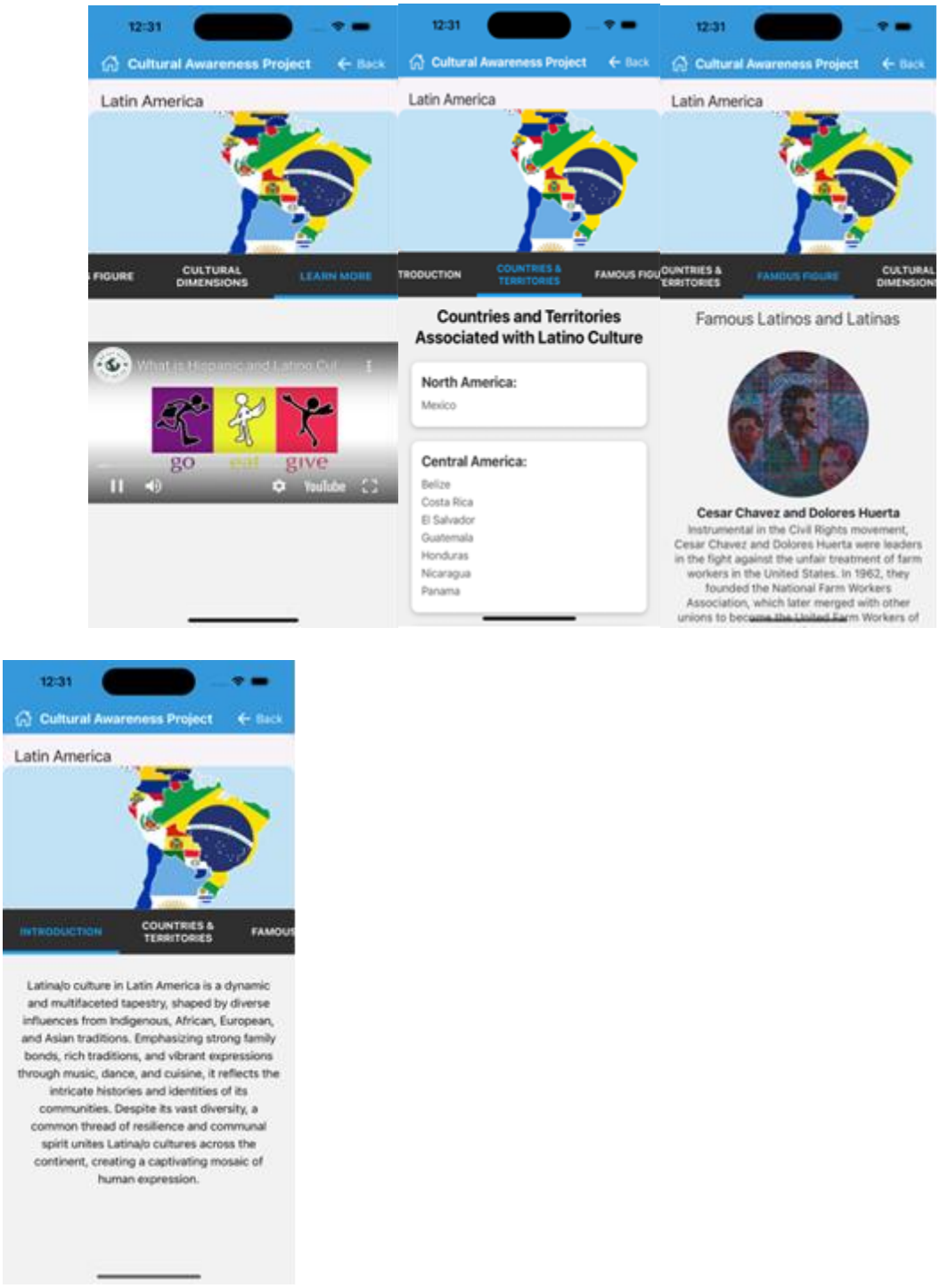

Figure 6. Learning Dimensions and Interactive Videos

Above screens are the best ways how the user interface is being developed. Each region have same parameter tabs, and are bifurcated to understand each region. Users can also watch youtube video, these videos are related to the region and helps to learn more about it for the users in an interactive way.

7. Calendar Screen

Figure 7. Calendar Screen

Calendar screen helps us to see and learn about upcoming events for most of the region and cultures.

8. Contact Us Screen

Figure 8. Contact Us Screen

The Contact Us screen helps the users to reach out to us. It gives them the opportunity to send out feedback or even any opinion and their experience as well. This would be stored in our database and then reached out by our faculty.

9. Cultural Dimension Screen:

Figure 9. Cultural Dimension Screen

This screen is the basic model on which our study and application is based on. It is the heart and soul of the application. So if anyone is interested in learning about it we gave the dimension available on the application.

10. Firebase[1] Database screen:

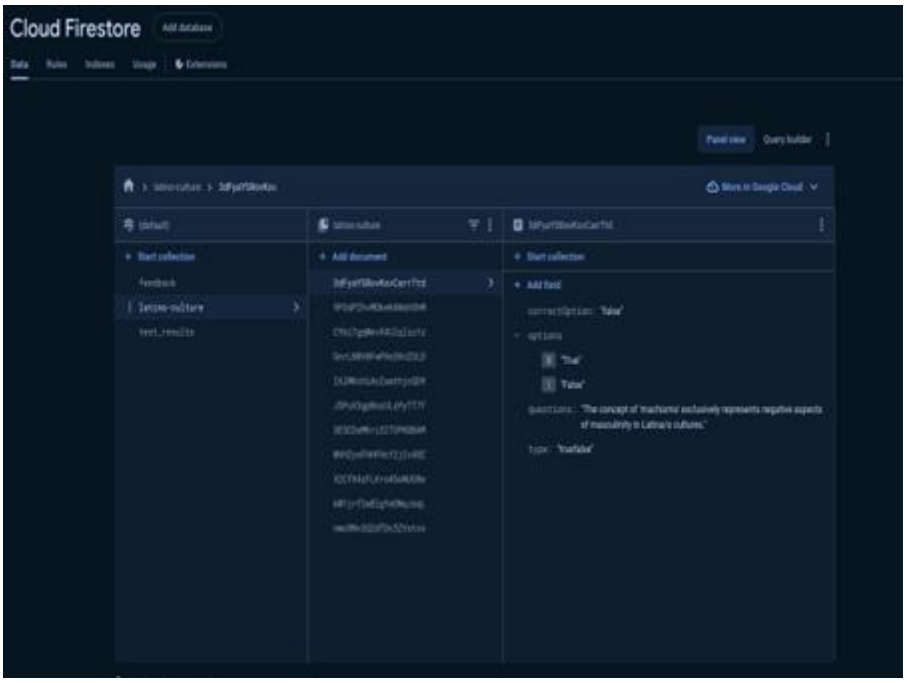

Figure 10. Firebase[1] Database screen

This is the database we are using where we store basic information about the applications like feedback, latino-culture, and test results.

CHAPTER FIVE

CONCLUSION

Limitations And Challenges

One of the major limitations of this project was a lack of real-world data to test the application. Since to test the application, we have to upload the application to the google play store and app store, it gets difficult to get approval of something which is on the beta application. So to test the application in the real world will be our future feature.

Another challenge encountered during the project was integrating thirdparty services. The application relied on several third-party tools, such as map and image processing services, which required additional configuration and troubleshooting. This added complexity to the development process and could have led to increased development time and costs due to delays.

Future Work And Scope

There is always a scope of the new implementation and having such a good planning and implementation session we were able to point out the future features like collaborating with the university's different student groups and advertise their upcoming events. News feed is the next feature in which we will collaborate with the university to get the most recent updates that universities have.

These features will obviously have much more of an impact and the application can become a one shop stop where users can learn more and different information as well.

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