Proposal : Team 02

Sandsational

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Software Engineering course project

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Preface

This is a proposal for the Metasearch Engine for Beaches “Sandational” project for partial fulfillment of the requirements of a Software Engineering course (CSC431) project in the department of Computer Science at the University of Miami.

This proposal provides the scope and context of the project to be undertaken. It details the intended user group and the value that the system will have to them.

The intended audience of this document is the course professor and teaching assistants so that they can determine whether the project should be approved as proposed, approved with modifications, or not approved.

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1.0 Overview

1.1. Purpose, Scope and Objectives

The purpose of this project is to build a web-based application that helps users find the most optimal beach based on proximity and weather. The app will use geospatial technology to locate and display the best beaches on a map-based interface. The main objective of the project is to make beach-finding easy and efficient for users, taking into account factors such as distance, weather conditions, and user preferences. The main user base would be tourists or locals looking for water-related outings near the location of their choice. With the use of Azure's cloud computing platform, the app will use OpenWeather API and the Leaflet library for Geospatial technology and a map-based interface. From the back end, the language would be Ruby for handling CPU-intensive tasks. "Sandsational" local water entertainment finder should be an installable application on mobile devices.

1.2. Project description

We will develop a metasearch engine as a web-based application in which users will be able to find nearby beaches depending on the weather and distance of their choice and based on these findings see activities and entertainment available at the locations shown. The system will provide search facilities to best optimize the user's preferences to match the perfect beach. Filters such as weather, and distance which will provide the user with activities at the site, popular times to visit, hours of operation, warnings, and other details about the place that could impact their visit.

The application will use the front-end framework Angular and the back-end would be done using Ruby. The Foot Traffic Data collected will be used in accordance with the database PostgreSQL. The server for the same would be Azure where we would use the

LAMP stack instance. Additionally, geospatial data will be stored and displayed using OpenWeatherMap APIs and the Leaflet library. This is very helpful as the major deciding factor would be the type of weather like wind speed, rain probability and potential storm/hurricane warnings. Scribe and Elastic Search will be the basis of the search engine, these will help optimize the search and enable the integration of the several features mentioned.