**CSC154 Software Development**

**Project Overview Template**

Project Name: Venue Scraper

Team Number: 4

Project Manager: CJ Coronado

Team Members: Katelyn Doyle, Raegan Durdin, Fatima Zaid, James Dove, Sha He

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1. Project Objective

* We are redesigning an existing program, the Venue Scraper Project, for Shirley Road Records, a business based in Durham, NC.
  + We need to expand the Venue Scraper Project to scrape data from multiple music venues in Raleigh / Durham / Chapel Hill.
  + We intend to move the current database from Excel to SQL to enhance speed.
    - The current program runs on a combination of .py, .bat, .txt, .xlsx, and .r files. Project Sponsor is currently using Excel as the project’s database.

1. Project Scope

***Main Features and Functionalities to be Developed***

1. **User Login and Access Management**:
2. Users can create accounts and log in to the system.
3. The system will provide different user roles, such as administrator and regular users, with specific access rights.
4. **Venue Search and Filtering Functionality**:
5. Users will be able to search for venues based on various criteria, such as location, date, price, and venue capacity.
6. The search results will be filtered according to the user's query and sorted by relevance.
7. **Data Scraping and Automated Updates**:
8. An automated data scraping tool will be implemented to extract venue data from different websites and update the database regularly.
9. The data scraper will capture key information such as venue name, address, capacity, availability dates, and pricing.
10. **Database Management**:
11. A venue database will be established to store venue-related information (e.g., name, address, capacity, facilities, ticket prices, availability).
12. The project will use **PostgreSQL** as the database management system for handling data storage and queries.
13. **User Interface (UI)**:
14. A user-friendly interface will be developed for users to search and filter venues.
15. The UI will be built with **HTML, CSS, and JavaScript** using a front-end framework like **React** or **Vue.js** to enhance responsiveness and interactivity.
16. **Backend Development and API Design**:
17. The backend will be developed using Python framework, handling interactions between the frontend and the database.
18. A **RESTful API** will be provided to support data exchange between the frontend and the database.

***Excluded Features***

1. **Advanced Recommendation System**:
2. The project will not include a complex AI-based recommendation system; only basic filtering based on query criteria will be supported.
3. **Mobile Platform Support**:
4. The project will focus solely on web development, and mobile support will not be included in the current development cycle.
5. **Internationalization (Multi-language Support)**:
6. The system will only support English, and other language versions are not part of the development plan.

***Project Constraints and Assumptions***

1. **Time Constraints**:
2. The project will be completed within four sprints.
3. **Resource Limitations**:
4. With a limited team, the initial focus will be on developing the search functionality and database management. Advanced UI design and data scraping may need to be completed in future iterations.
5. **Technical Requirements**:
6. The database system must support efficient data querying and sorting.
7. The data scraping tool should handle anti-scraping mechanisms to ensure stable data extraction.
8. **Dependencies**:
9. The project depends on third-party data sources (venue provider websites) for gathering venue information. The availability of these sources may impact project progress.
10. Team Collaboration and Documentation Tools

* Our Team is utilizing Microsoft Teams’ “Files” tab as a shared portal for all documentation.
* Project Manager created a GitHub repo that houses the code for the project’s pre-existing Python script.
* Our Team is primarily communicating through MS Teams, with Outlook email as our backup communication method.
* Project Manager has added all pre-existing files to a GitHub repository each group member has access to.
* Everyone will have access to either Python or Visual Studio Code (VSC) for .py file handling.
* Group members will branch from main branch to create their designated venue’s web scraper.
* Group members will commit changes for Project Manager approval.
* No in-person meetings need to occur.

1. Project Management Plan and Methodologies

* We are following the Scrum and Agile methodologies.
  + Scrum
    - Each phase of development is broken into weekly sprints. Each sprint will focus on different aspects of the project.
  + Agile
    - Because not all tasks will require the same length of time, team members will be adaptable to assist other members on tasks when needed.
* Our approach to the project allows flexibility for each team member to begin working without having to wait and receive materials or results from fellow team members.