Central Connecticut State University
Department of Computer Science

Software Engineering Studio
Project Proposal

Project Title:	Connecticut Explored's Scavenger Hunt App
Organization:	Connecticut Explored
Primary Contact:	[redacted]
Email:	[redacted]
Phone:	

Background Information
Connecticut Explored is a nonprofit quarterly magazine about Connecticut history that has been in print for 21 years. We also host a podcast, *Grating the Nutmeg*. We have 3700 subscribers to the magazine and hundreds of listeners to the podcast. We are trying to expand our digital presence, and we want to have more interactive engagement with the magazine.

Project Description
In Spring 2024 we asked a CCSU CS team to create an app focused on walking tours of places in Connecticut. Our magazine has articles that can be easily adapted to these tours. We want to adapt the articles to accompany a map (short descriptions, instructions for walking, pictures from the articles). The Spring team created an app that has a map platform on which points of interest can be entered. After a person finds a particular point of interest, she can post a tagged picture of herself at the POI on our Instagram. They created a leaderboard where those who do the walks can accumulate points and we can offer a prize, like a bit of swag, when they reach a milestone.

There are sites that have history tours, like https://www.historypin.org/en/ but it isn't adaptable to our needs. There are other apps that allow a person to create tours: https://stqry.com, but these too don't exactly meet our needs. We don't believe we need to reinvent the wheel. GoogleMaps could be a base. Old maps could complement the new map: https://www.oldmapsonline.org/map/rumsey/4453.014

Project Scope
Purpose: Describe what you consider to be the scope of the project in terms of a specific software system to design and deliver, prototypes to develop, technologies to explore, etc. An ideal project will challenge a team of 4 or 5 students to use a broad range of computer science and software engineering skills they have learned. A team of 4 or 5 students will each work on the project about 10 hours per week for the period of the project cycle. It is unlikely that the students will have detailed knowledge of the project application domain, and thus they will develop the necessary domain knowledge during the course of the project. Your organization must provide access to resources necessary for the team to acquire any such knowledge, and time for this must be factored into the project's scope.

- There need to be short instructions on the app so people know how to use it.

- Right now, I am not able to create or edit the tours. For the app to be valuable to us, we need to be able to add tours and edit content if there are mistakes. If my editing tours is not possible, then we need to build tours together that are accurate. I can do that, as I don't expect CS students to do it.
- Photo files need to be able to be uploaded and not just linked from other websites, because those are not loading.
- There needs to be a greater ease of moving from one point of interest (POI) to another.
- The functionality of the Instagram to Leaderboard is not yet easy to navigate. We also need to set a scale for the leaderboard and show the tiers of prizes.
- We would like to have the app tours free to magazine subscribers, but we want to charge a small fee for non-subscribers.
- There should also be a maintenance plan so that updates don't break the system.
- Some problems I noticed that might not be fixable but we'd like to try: e.g., when an address no longer exists, the map chooses a similar address. On one of the sample tours the Hartford address we added is gone, but a similar one exists in East Hartford, so the map shows the point of interest in East Hartford.
- We would like there to be elements of universal design (speech capability for those who are sight impaired, for example).
- It has to be easy to post to Instagram and load points to the leaderboard.

Project Challenges
The challenges will be finding the best way to create the app and making it easy to use while incorporating interesting features that link to Instagram and our website for the leaderboard.

Constraints & Assumptions
- Tours must be able to accommodate at least 10 points of interest. We assume 6-10 points of interest will be normal.
- There has to be room for some description for each point of interest. Since the tour will be an adaptation of a magazine article, we also need room for pictures.
- Tours should keep track of distance in miles and kilometers.
- Points for the leaderboard have to be calculated in a consistent way. It could be related to distance or number of sites.
- Posting to CTExplored's Instagram should be easy.
- The "look" should be appropriate to a history site.
- There should be the ability to make it free to subscribers and paid for non-subscribers.
- There will need to be an administration access, and some way to provide our contact info. I would like the code uploaded to my GitHub and any keys, passwords, or other access info.

Sponsor-Provided Hardware and Software

Sponsor and Project Specific Deliverables
Work on the implementation of the requested changes in order of priority.
Complete the design features.
Add new content provided by the client for the tours.
Demonstration of the project.
Upload final code to [redacted]'s github.

Edit and update instructions for users on the app to incorporate what has been changed over the semester.
Edit the User Manual so that it will be complete at the end of the project.

Proprietary Information
User data should be confidential so that only the admin and the user have access. But leaderboard usernames will appear on the board. Do we need a consent box?

The articles in *CT Explored* are under copyright, but CT Explored agrees to sharing this content on the app.