

GCISLFullStackApp

Project Description and Clarification

Sponsor: WSU Granger Cobb Institute for Senior Living (GCISL)



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I. Introduction

The Granger Cobb Institute for Senior Living (GCISL) at Washington State University is dedicated to advancing the field of senior living through research, education, and community engagement. As part of this mission, GCISL uses gciConnect, a web-based senior living resident volunteer report tracking system. That site was originally implemented by a student group in 2023 and improved by another group after that. GciConnect is a crucial tool to help faculty, staff and students track and manage volunteer reports for senior living residents, which contribute to ongoing research progress that has the objective to improve the quality of life for older adults.

However, GCISL seeks to enhance their existing system because it faces challenges in usability, reliability, and administrative capabilities, which interfere with its efficacy to meet the needs of the GCISL's stakeholders. By making feature enhancements such as the improvement of the interface, reliability, and administrative portal as adding other features, the team aims to create a more user-friendly and reliable tool that will support future research projects and make it easier for administrators to manage the platform and smoothly perform day-to-day operations.

II. Background and Related Work

The domain of this project falls within healthcare technology, specifically focused on senior living communities. The Granger Cobb Institute for Senior Living (GCISL) at Washington State University uses gciConnect, a web-based system, to manage and track volunteer reports for senior living residents. The broader context involves the intersection of gerontology, technology, and data management to improve the quality of life for older adults through research, education, and community engagement.

Senior living and healthcare technology have increasingly embraced digital systems to streamline operations, enhance resident care, and support research. Web-based systems like gciConnect play a crucial role in data collection, volunteer management, and research tracking. However, many systems in this domain face challenges related to usability, reliability, and administrative management, similar to the ones faced by gciConnect

To successfully enhance gciConnect, the following technical knowledge and skills will be necessary:

Web Development and Frameworks: Familiarity with front-end frameworks (e.g., React or Vue.js) to enhance the user interface and improve usability.

Database Management: Understanding of database systems (e.g., MySQL or MongoDB) to ensure the backend reliably manages volunteer report data and facilitates smooth administration.

Security and Compliance: Knowledge of healthcare data security, especially related to HIPAA compliance, to ensure that data collected through gciConnect is managed securely.

User Experience (UX) Design: Learning best practices in UX/UI design to improve the overall user experience, ensuring that administrators and users find the system intuitive and accessible.

API Integration: Skill in working with RESTful APIs to potentially integrate external services or tools that could enhance the functionality of gciConnect.

III. Project Overview

This volunteer report tracking system was designed as a capstone project for the Granger Cobb Institute for Senior Living (GCISL). To fully meet the requests of the volunteers, staff, and faculty at GCISL, the following areas need to be improved in the system:

- *Usability:* The current user interface lacks inclusive accessibility features, which makes it difficult for all users (particularly senior living residents and volunteers) to interact with the system. Improving the system's user interface and overall user experience is critical for ensuring better accessibility/ease of use.
- *Reliability:* The system should include the implementation of automated tests to ensure stable functionality, error tracking to help administrators quickly address issues, and Application Performance Monitoring to ensure availability and reduce downtime.
- *Admin Portal Improvements:* The administrative portal needs to be enhanced to provide better system management capabilities. This includes giving administrators tools to track performance, manage users, and troubleshoot issues.
- *Feature Enhancements:* Several features requested by the GCISL team were either partially implemented or missed in the original version. These gaps must be addressed by identifying, developing, and integrating new features.

The goal of the project is to create a highly usable, reliable, and feature-complete system that satisfies the needs of all stakeholders. Specifically, the outcomes are:

- The system should provide an easy-to-use, accessible interface for volunteers, staff, and residents, with particular attention to responsiveness and mobile compatibility.
- By implementing automated testing and logging, the system should be stable to use in daily operations. Administrators should be able to monitor system performance and availability using APM tools.
- The enhanced administrative portal should allow GCISL staff to manage users, assist users who face issues, and monitor system performance in real time.
- The project will include the development of comprehensive documentation and training materials so that GCISL staff and faculty can effectively manage and maintain the system after deployment.

IV. Client and Stakeholder Identification and Preferences

Our primary client is Washington State University's Granger Cobb Institute for Senior Living (GCISL). Our primary liaison contact will be Mrs Darcie Bagott, GCISL's Program Specialist. The final project will be predominantly used by GCISL faculty and staff members, who will oversee the volunteer report tracking system to better serve the institute's goals and ongoing research initiatives. Also, the GCISL residents and their families will be using the system as well.

The needs of our client and stakeholders are an improved system with a more intuitive user interface, enhanced administrative control, and improved system reliability to support their research on senior living. Some preferences include hands-on experience in managing and accessing senior living data as well as a robust admin portal with advanced features like rolling logs and user assistance tools to address any system issues effectively.

There are multiple stakeholders involved in this project. Those stakeholders are the GCISL faculty and staff, who rely on the system for data tracking and research purposes; both students studying Senior Living Management and those involved in research, the administrators who manage the system. Not to forget the research participants, whose data will be used.

Potential clients can be other senior living institutions in Eastern Washington or Washington as a whole.

V. Glossary

1. *gciConnect* - A web-based system used by GCISL for tracking and managing volunteer reports.
2. *Automated Testing* - A process where software tools are used to automatically run tests on the system to ensure its functionality, detect bugs, and improve reliability.
3. *Application Performance Monitoring (APM)* - Tools and processes used to monitor and manage the performance and availability of software applications in real-time.
4. *Admin Portal* - A web-based interface used by system administrators to manage users, track performance, and troubleshoot issues within the system.
5. *User Interface (UI)* - The part of a software application that users interact with, which should be designed to be intuitive and accessible.
6. *Volunteer Report Tracking System* - A system that helps track and manage the reports submitted by volunteers working in senior living environments, primarily for research purposes.
7. *RESTful APIs* - An architectural style for designing networked applications. It stands for Representational State Transfer, and it's used to allow communication between systems over the web.

VI. References

1. WSU Granger Cobb Institute for Senior Living, "Volunteer Report Tracking System Enhancement," internal document, ACME8-GCISL FullStackApp, 2023