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CST 499 Capstone - 8/30/2020

TEP

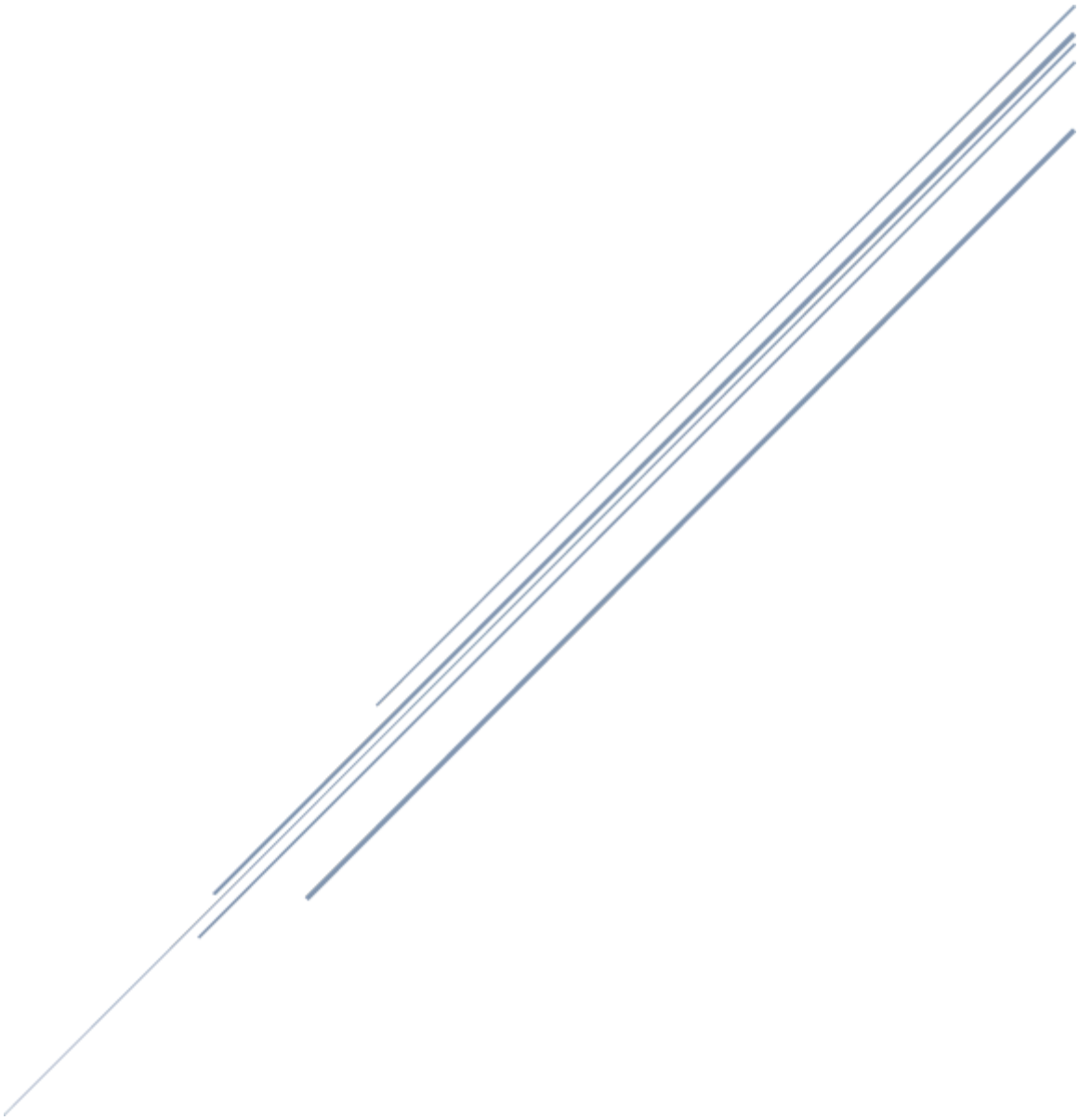


Table of Contents

Executive Summary

Thermal Exhaust Port (TEP) is intended to become a visitor management tool in which an external user is granted access by an internal user to redacted visitor information. This information has been redacted due to it being sensitive or identified as not needed for a visit to take place. The main goal for the Capstone is to securely share the information with an external user. This project is expected to be expanded upon well past the capstone, the original deliverable has been identified as the baseline of a management tool.

Part 1

Project Introduction

Introduction

Checking in at a waiting room for a meeting or appointment is the first interaction a visitor has when they step into your company, so it makes sense to want to make it as seamless as possible for your potential clients, customers and employees. In most places it cannot be as simple as having an open lobby where guests can walk in straight to an office, classroom, or boardroom. In most corporations we expect a level of security in place to preserve a continuous flow of visitors and prevent access to any unscheduled or unwanted guests that may disrupt the workflow.

Problem in Technology

Some companies may use an off-the-shelf software or application to verify guests via a personal identification number, biometrics or badge access. Others, such as hospitals, may handle this situation by having a person make an appointment for a visit and an external user will receive a list of the appointments expected for the day. Some businesses may not have the luxury of being able to share the whole visit and visitor information to this external user or post the information out in their waiting rooms with an off-the-shelf software due to general security concerns on where the data is being fed into. This can cause unintended

side-effects such as slowing down the visit sign in process or having an external user generally not be aware of who to expect for the day.

Project Description

For this project, I plan on creating an expansion to an internal module in which logged visit requests, that are already in place and handled by a team of internal users, get reviewed and sent out to an external user. I will be working on the way the information gets presented and forwarded to this external user. The final goal is to make it possible to share redacted visit information while keeping the integrity of the data unmodified.

Client/End User

The client in need of this solution already has an internal visitor form process in place. The information on the form is not able to be shared outside the process owners due to the sensitivity of the data. With this project, external users, such as those manning the waiting room and that do not have access to the internal website, will be able to review expected visitors with redacted lists or tables, helping them tailor their workday depending on how busy it may get. I will be performing the work myself; however, my work will need to be vetted by teams internal to the customer, to include cybersecurity. Additionally, I will be tailoring the project to the specifications and design of the company's previous websites and styles.

Project Goals and Objectives

Goals

- Introduce external users to an internal database
- Control what information is shared between parties
- Help external users be able to tailor their day depending on how busy they may be
- Help ease the sign in process for a waiting room setting

Objectives

- Parse through a visit form (in a database) to collect information and store it
- Create queries for day visits to display in a table
- Establish a new internal access to review visits
- Share data via internal network to an external user
- Future Objective - Notifications to process owners when a visitor arrives
- Future Objective - Extend notification to the visitor's point of contact with a templated internal messaging or email

Environmental Scan

As pointed out under the Problems in Technology section, some of the companies that look for a visitor management system solution would resort to an online software for their waiting rooms. The way they work is by having a device placed in the waiting room for guests to sign a form and the information is retained for as long as the customer would like. Looking at an article written by Ernest Hamilotn titled "Top 5 Visitor Management Systems in 2019" his recommendations come to be Sine, Proxyclick, Envoy, SwipedOn and iLobby, in reverse order (Hamilton, 2019).

The software that stood out the most to me was Envoy, as it comes with many features tailored around security, compliance, and efficiency. Security features include signing proper documentation, such as non-disclosure agreements, and visitor screening ((Envoy Visitor, Deliveries, and Rooms Management, n.d.). The software also allows the owners to review the data and export queries to an external system; however, most of the information is initiated by the visitors and not the stakeholders.

Tailoring the software or application up to the internal team's standard is what will set this project aside from an off-the-shelf or subscription-based solution.

Stakeholders and Community

The primary stakeholders involved for the project would be the internal users, the external users, and the people entering the building. Both, the internal users and external users would gain a symbiotic relationship through the use of the application, as the information will begin to be shared between the two groups. External users will have access to vet visitors coming in, and verify that they have been cleared beforehand, allowing them to either speed up the process or deny the access of those that have been previously rejected. This would prevent access to any individual that has been rejected or denied entry by the internal users, but not communicated to the external users ahead of time, keeping from legal action if paperwork has not been signed and while maintaining proper security measures.

As new issues arise with the coronavirus pandemic, one of the main paths companies may be looking to condense their essential operations, while reducing and monitoring their visitors traffic. Having a Visitor Management System can assist in pre-registering visitors, verifying identifications and streamlining the process (Metcalfe, 2020), allowing all of these operations to be performed with minimum interaction between either the visitor and the personnel verifying the visits. Introducing a system that can assist in reducing the spread of coronavirus. One of the approaches that Metcalfe delves into in his journal regarding Workplace Safety for Essential Services during the Coronavirus Outbreak involves an "invite-first" process to mitigate visitors who may be dropping by unannounced. This process involves having a team pre-approve visits and, via pre-registration and approval flow

(Metcalfe, 2020), minimize the face-to-face interaction between people in a high traffic area such as a waiting room or lobby.

Approach & Methodology

Primary approach will involve meeting with the internal and external users to understand the databases involved, the job duties in place for each team, and information needed to be shared and redacted. Learning the structure of how the databases are maintained and controlled is paramount to being able to discern a flow of information needed. Once the applications used and primary columns to be shared are identified, I will research methods for transferring information securely between the two users.

Researching on what the market has to offer for the visitor management solution can also provide insight into what sort of features could be implemented in the future. Features implementing sign up forms or checking in features to extend to the visitors are viable and can be expanded upon after the first revision. As goals are met and new ones discovered, I can see some of these objectives being requested to be introduced to ease the signing in process. Follow up meetings should be established to identify features that can be introduced in post stages of the product.

Segmenting and breaking down the goals into tasks as an Agile approach will be beneficial for this project. Some of the tasks may be easier to accomplish than others, as well

as being standalone services. The scheduling and workflow will be set once tasks are identified and triaged. If interactions with new software is needed, proper time management for familiarizing with the software will need to be taken into consideration. As each task is completed, results should be provided to the internal team for reviewing and approval of the product.

Part 2

Ethical Considerations

The major ethical concerns that may arise with the capstone project is that now that visitors may be kept in a database and checked, those that have been denied access to the building will be known to a third party external user. The personnel who are denied entry may be done so due to failed background checks or internal decisions within the client's team, which is not shared with external users. Sharing such information may result in oversharing of personal data and can cause assumptions on the reputation within those on the denied list. Spilling of this data can also be considered to be mishandling of information and could affect the internal users ability to manage further sensitive information. This is why sanitizing the information before sharing is important to keep the privacy of those involved, by only sharing all the information with those who have been properly trained, while funneling the least amount of information necessary to any external users.

Legal Considerations

A denied personnel list may be followed with a negative connotation to the people on it, which is also why making it such information private and controlled is important and necessary to the client. Having such information go out into the public could have legal repercussions from the people whose identity may be compromised and damaged. Those revealed to be barred from accessing the facility could look into legal action and sue the company on the grounds of their reputation being tarnished and for defamation, because their name was a part of a denied entry list.

Besides these legal issues, the software used will need to use active licenses and any non original code will need to have the proper authorization from the originators before being able to be used on a release that will be given to the client.

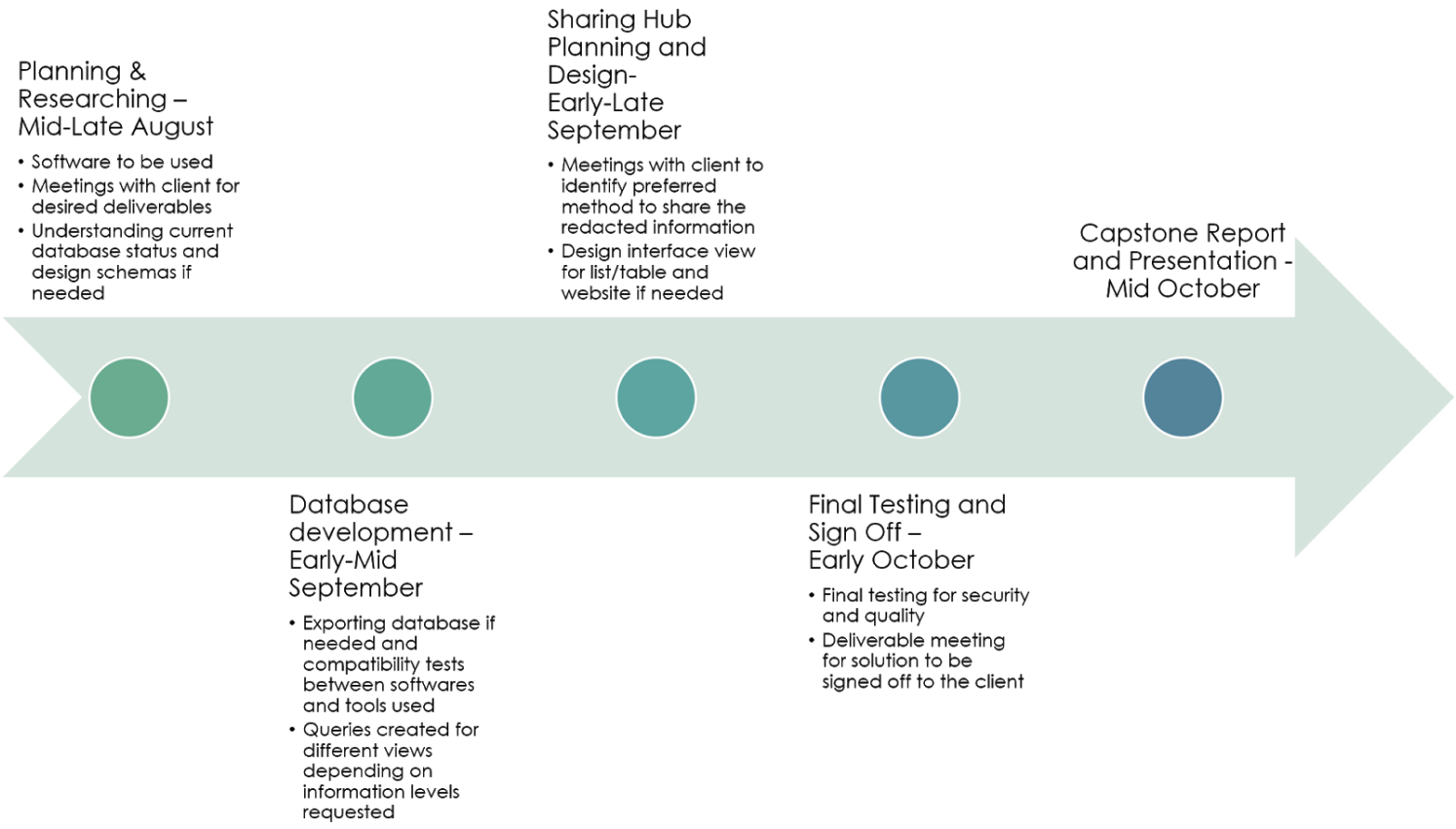
Part 3

Project Scope

Timeline

This project will be worked in tandem with the Capstone course. The project will begin the week of August 31st and extend until the end of the Capstone course. I have divided the project in quarters, with a pre-quarter dedicated for meetings with the client and

planning. The first quarter will involve database design and query creations. The second quarter will include the transfer of data design and solution. Third and fourth quarter will include finishing the Capstone deliveries and presentation.



Milestones & Resources

This project is divided into two major sections, the database build out and the solution to share the data. These have been sectioned as part 1 and part 2 for the client. Part 1 will be completed Mid September while part 2 will begin mid September and finish by the end of September. Resources needed have been identified by the client and they have requested to

use Microsoft Access for the database buildout and query design with capabilities to export CSV files or linking the database to a sharepoint site, selected due to its selected internal sharing and encryption.

Risk & Dependencies

A major risk identified involves scheduling with stakeholders. The client has requested that testing throughout the project involves working alongside other stakeholders (internal and external users, Information Assurance specialists, Information Technology personnel and Security Professionals) and working on their time to be on track.

Final Deliverables

The deliverables of this project have been identified as a baseline of a visitor management system, and we expect to continue expanding upon this project well past the capstone project. The first deliverable is a database in which the client can store their information securely and queries in which different corresponding filters are filtered through. The second deliverable is a way to share a redacted list to an external user via an internal website with a list or other means.

Usability Testing/Evaluation

The final deliverable will be tested by people that have various levels of computer experience, such as Information Assurance

Part 1, the database, will have its queries tested rigorously to identify any incorrect MySQL syntax. Data integrity and encryption will be tested and verified by Information Assurance Specialists and Security Professionals who will assist in testing or provide guidance on how to properly secure the information. Database tables will be tested for normalization standards set by the client.

Once the queries have been identified, the integrity and security have been vetted and the database and its tables are properly set up, part 2 will be tested using dummy data first. No special requests or pre-requisites have been identified yet besides a way to display the redacted data into a table or list for an external user. Once the dummy data has been verified to be displayed correctly by both, internal and external users, part 1's database will be swapped for the dummy data and integrated onto the view.

References

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