**Vanier College**

**Faculty of Science and Technology**

**System Development 420-436-VA**

Deliverable 07

**Grey Team**

Gennaro Finelli

Mohammed Hosein Ali

Alexandre Pham

Wayne De Leon

In collaboration with CyberStation

**(Code from our eCommerce class will be used for certain features of this project)**

**We, the Grey Team, certify that this assignment is our own work**

I, Gennaro Finelli, student ID# 2268107, certify that I have contributed to this deliverable, G.F

I, Mohammed Hosein Ali, student ID# 2055295, certify that I have contributed to this deliverable, M.H.A

I, Alexandre Pham, student ID# 2048017, certify that I have contributed to this deliverable, A.P

I, Wayne De Leon, student ID# 2179710, certify that I have contributed to this deliverable, W.D

Table of Contents

[Executive Overview 3](#_Toc183706595)

[Summary Description of the Client 4](#_Toc183706596)

[Description of Client 4](#_Toc183706597)

[Business Domain 4](#_Toc183706598)

[Business Environment 4](#_Toc183706599)

[Final Business Problem 4](#_Toc183706600)

[Revised Summary Narrative 5](#_Toc183706601)

[Description of System 5](#_Toc183706602)

[Client’s comments 6](#_Toc183706603)

[Design and Implementation 7](#_Toc183706604)

[Description of current security measures 8](#_Toc183706605)

[Future Work 9](#_Toc183706606)

[User Interface Improvements 9](#_Toc183706607)

[Unimplemented user stories and functions 9](#_Toc183706608)

[Recommendations regarding future security measures to be taken 9](#_Toc183706609)

[Recommendations regarding unit and integration test strategies to be used 9](#_Toc183706610)

[Appendix 1 10](#_Toc183706611)

[Appendix 2 15](#_Toc183706612)

[Appendix 3 16](#_Toc183706613)

[References 20](#_Toc183706614)

[Project Plan 21](#_Toc183706615)

# Executive Overview

Cyber Station is a gaming lounge that provides its customers with the opportunity to play video games, while being able to be served food and drinks to enhance the experience. It combines the ideas of an arcade with the latest consoles. Cyber Station has a great business environment but can be further developed with an added online presence. Cyber Station has some current advertising through Instagram, and other websites that review Cyber Station, however they don’t have a website of their own. The staff is very friendly, and the business has great reviews. Our website will help the client and her staff with the organization of their reservations.

In this final deliverable, we had to make a final summary of the client, of the narrative, and of the design and implementation of this project. It was basically the final touches of the project. So, what had been changed, removed, or added from the previous Deliverable, as well as what the client has had to say so far.

Everything is almost finished, and the client seems satisfied.

# Summary Description of the Client

## Description of Client

Our client’s name is Sarah Chahrour, she is currently running a gaming lounge located in the airport YUL called CyberStation, where she provides a gaming station for customers to pass time as they wait for their flights. She offers times for customers to book a gaming station for a set amount of time.

Our client does not have any computer/programming skills. She will not be the only one able to access the project we make; her employees will also have access to view the project we develop.

## Business Domain

Cyber Station is a gaming lounge. According to Taryn Hefner, who made a blog on Join It, gaming lounges provide its customers with the opportunity to play video games. It can also include tournaments, cosplay contests, networking events and other events. It combines the idea of an arcade with the latest games and consoles. Certain gaming lounges provide food and drinks to customers to make it more of a hang out spot.

## Business Environment

Cyber Station has a great business environment, but everything can be developed with added online presence which will be done along the process of this project. Currently, Cyber Station has some advertising through the internet in the form of Instagram and other websites that review the platform, but it is missing its own website. Not only does creating its own website boost the business’ online presence but also helps the staff have an easier time doing their job. Reservations of consoles will also aid customers see if a spot is free or reserved so they can manage their time better. The staff is very friendly, and the business has a great review online. In all, the business has a great environment for both the staff and the customers.

## Final Business Problem

Our client has no website for her gaming café business. So, she would like us to make her a web application so clients can have an overview of her business. In the website, clients will be able to make reservations because clients usually line up in front of the store and don’t know the estimate of when they’ll be able to reserve spot. Additionally, they can also read up more about the business. Also, employees will be able to track reservations and CRUD their status’.

Lastly, the client writes all of her gross sales and cash profit with pen and paper. For that reason, she would like an additional feature to track sales (sales tracker).

# Revised Summary Narrative

## Description of System

CyberStation gaming café website was developed using a structured Model-View-Controller (MVC) architectural design pattern for easier maintenance, better scalability, and more flexibility.

The main technology used for:

1. Frontend Development:

* HTML for foundational structure of the website.
* CSS to style interface and ensure user-friendly experience.
* Responsive design to work on desktop, mobile, and tablet.

1. Backend Development:

* PHP was used for server-side logic, handling requests, processing data, and to perform CRUD operations alike.

1. Database:

* MySQL was chosen for the database.

1. Authentication and Security:

* A Two-Factor Authentication (2FA) system was added for an extra layer of security
* An email mailing system using PHPMailer was included to handle reservation confirmation emails and support emails.

The main feature of the website is the reservation style system used.

# Client’s comments

The client has expressed satisfaction with the website, noting that everything has looked great so far. She had no additional comments or concerns at this stage. Only to finalize and to deliver the completed product. Then, will the project meet the client’s expectations.

# Design and Implementation

For the development of the CyberStation Gaming Café website, we made a deliberate design to align with the client’s expectations, adhere to the provided prototype (gameway.gg with slight few changes), and ensure a functional, visually appealing, and secure system. To comply with this, vanilla CSS was used for front-end design, along with media queries to establish responsive design across all devices. Multi-language support was also integrated to cater to the heavily Franco-Anglo community in Montreal.

As for the software development side of the system, the concepts and practices used were heavily leveraged from what we had learned in our E-Commerce class taught by Sir Ronald. Lessons from our E-Commerce class taught us how to handle dynamic content, process form data securely, and connect with databases using PHP. So, all the server-side logic, allowing seamless integration with MySQL database to perform CRUD operations, and secure session handling techniques were all performed by PHP.

To continue with, as previously said, the relational database used is MySQL. Tables were designed for admin, stations, reservations, and payments. Using what we learned from our E-Commerce class, stored procedures were implemented to encapsulate database logic, enhancing security and preventing SQL injection attacks.

Lastly, we adopted an Agile Development iterative approach as learned in the System Development class taught by Sir Alex; incorporating client feedback at each stage of the project.

# Description of current security measures

To ensure protection of business and of user data, a couple robust security measures were implemented for system integrity.

1. Two-Factor Authentication (2FA):

* 2FA adds an additional layer of security beyond a username and password for the admin. This makes sure that if admin credentials are somehow comprised, that unauthorized access is harder to achieve.

1. Stored Procedures for Database Operations:

* Stored procedures play a critical role in securing databases by mitigating vulnerabilities. CRUD operations are performed solely through stored procedures, and by doing so, prevents SQL injection attacks and more.

# Future Work

As of 11/30/2024, there are only 2 features missing until the project meets the requirements. They are 2FA for making reservations and a responsive design.

Edit: Both features are now done as of 12/02/2024.

## User Interface Improvements

* None

## Unimplemented User Stories and functions

The user stories in black highlight are the unimplemented functionalities (none).

A screenshot of a computer

Description automatically generated

## Recommendations regarding future security measures to be taken

* None

## Recommendations regarding unit and integration test strategies to be used

* None

# Appendix 1

## Home Page

Changed some icons because was too similar to competitor website, colour schemes, and removed background image.

Prototype:

A screenshot of a video game

Description automatically generated

A screenshot of a phone

Description automatically generated

A screenshot of a phone

Description automatically generated

New:

A close-up of a screen

Description automatically generated

A screenshot of a white screen

Description automatically generated

## Location Page

Removed description of location and replaced with more of aesthetic design.

Prototype:

A close-up of a text

Description automatically generated

New:

A black and white sign with a pin

Description automatically generated

## Contact Us Page

Removed ReCAPTCHA verification.

Prototype:

A screenshot of a form

Description automatically generated

New:

A screenshot of a form

Description automatically generated

## Reservation Page

Removed ReCAPTCHA verification as well.

Prototype:

A screenshot of a computer

Description automatically generated

New:

A screenshot of a form

Description automatically generated

## Admin Page

Just changed the front-end design.

Prototype:

A screenshot of a computer screen

Description automatically generated

New:

A purple and black text

Description automatically generated

# Appendix 2

PDF Version of User Guide - This should be written from the user’s point of view; that is, start with the task that the user wishes to perform, and then explain how to do it.

# Appendix 3

User story:

A screenshot of a web page

Description automatically generated

Reservation body, customer makes reservation, reservation system:

A screenshot of a registration form

Description automatically generated

Customer Confirm Reservation:

A screenshot of a form

Description automatically generated

System sends info to email:

A screenshot of a reservation

Description automatically generated

User story:

A screenshot of a computer

Description automatically generated

Admin Page Login:

A screenshot of a login screen

Description automatically generated

Admin Read Reservations, Admin Update Reservations, Admin Delete Reservations, Admin Page Logout:

A screenshot of a computer

Description automatically generated

User Story:

A screenshot of a computer

Description automatically generated

Globalization:

A blue and green text

Description automatically generated

A blue and green text

Description automatically generated

# References

Hefner, T. (2022, May 3). *What is a gaming lounge?*. Join It. <https://joinit.com/blog/what-is-a-gaming-lounge#:~:text=It%20can%20also%20include%20tournaments,of%20a%20hang-out%20hub>.

Nielsen, J. (2024, Jan 30). *10 Usability Heuristics for User Interface Design?* NN Group <https://www.nngroup.com/articles/ten-usability-heuristics/>

W3C Internationalization Working Group. (2020). *Developing Multilingual Websites*. W3C.

<https://www.w3.org/International/questions/qa-international-multilingual>

Cooper, A., Reimann, R., & Cronin, D. (2007). *About Face 3: The Essentials of Interaction Design*. Wiley.

<https://thedecisionlab.com/reference-guide/design/nielsens-heuristics>

Shneiderman, B. (1992). *Designing the User Interface: Strategies for Effective Human-Computer Interaction*. Addison-Wesley. <https://www.nngroup.com/articles/visibility-system-status/>

# Project Plan

Submitted inside of zip