

# CYBERHEALTH – MILESTONE 4

CEN4010\_GROUP22

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## Table of Contents

<b>I. Product Summary .....</b>	<b>2</b>
<b>II. Usability Test Plan – Maximum 2 pages.....</b>	<b>3</b>
<b>III. QA Test Plan – Maximum 2.5 pages .....</b>	<b>4</b>
<b>IV. Code Review .....</b>	<b>6</b>
<b>V. Self-check on best practices for security – ½ page.....</b>	<b>6</b>
<b>VI. Self-check: Adherence to original Non-functional specs.....</b>	<b>7</b>
<b>VII. Team.....</b>	<b>8</b>
<b>VIII. History table .....</b>	<b>8</b>
<b>IX. References.....</b>	<b>8</b>

## I. Product Summary

As a result of the COVID-19 pandemic, many aspects of our lives have been drastically altered. To avoid exposure to the disease, we must isolate ourselves. Moreover, the increasing number of Covid-19 patients has created bed and staff shortages in many hospitals. Covid-19 symptoms can range from mild to severe; individuals suffering from severe symptoms may die, while those suffering from moderate to mild symptoms can be treated at home under the supervision of a physician. With this in mind, we would like to introduce our website application called CyberHealth, which allows patients suffering from COVID-19 to feel confident that they can receive expert treatment from a certified doctor, all without leaving the comfort of their homes or exposing themselves to close contact with others.

CyberHealth is an online platform that offers a variety of health monitoring services exclusively for Covid-19 patients. By uploading their medical history and vital sign they can have access to one of our board-certified doctors. Your doctor will help you make informed decisions, they will determine whether you need to get tested or not, what steps to take after your test, and prescribe medication as needed. Additionally, unlike conventional facilities, our service does not require an appointment. At home or on the go, you can easily communicate with your doctor via comments anytime and anywhere. Our virtual health application is committed to providing not online excellent medical care, but a seamless user experience, intuitive web design, and a user-friendly interface to all users regardless of whether they are physicians or patients.

URL: [https://lamp.cse.fau.edu/~cen4010\\_fa21\\_g22/test2](https://lamp.cse.fau.edu/~cen4010_fa21_g22/test2)

## II. Usability Test Plan – Maximum 2 pages

- 1) Test objectives:
  - a. Functionality:
    - i. Edit patient info
  - b. Performance:
    - i. Page does not take longer than 2s to load
    - ii. Transition to patient info without lagging or error
  - c. User interface:
    - i. Clearly display information
  - d. Easy to use:
    - i. A regular user with short training can use the function.
- 2) Test plan:
  - a. System setup: devices with internet connection and have at least one web browser.
  - b. Starting point:
    - i. Run the URL: [https://lamp.cse.fau.edu/~cen4010\\_fa21\\_g22/test2](https://lamp.cse.fau.edu/~cen4010_fa21_g22/test2)
  - c. Task to be accomplished:
    - i. Successfully log in using Admin account with username: admin1 and password: abc.
    - ii. Clearly see all information display on the page.
    - iii. Successfully edit patients using the edit button.
  - d. Who is the intended user:
    - i. Team members
    - ii. Other team members for review process
    - iii. Customers for final product
  - e. Completion criteria
    - i. Successfully log in using Admin account with username: admin1 and password: abc.
    - ii. Clearly see all information displayed on the page.
    - iii. Successfully edit patients using the edit button.
  - f. URL of the system to be tested
    - i. [https://lamp.cse.fau.edu/~cen4010\\_fa21\\_g22/test2](https://lamp.cse.fau.edu/~cen4010_fa21_g22/test2)

### 3) Questionnaire form:

	Strongly disagree	Disagree	Agree	Strongly agree
<b>1. Successfully log in using Admin account</b>				✓

<b>2. Clearly see all information displayed on the page</b>				✓
<b>3. Successfully edit patients using the edit button</b>				✓
<b>4. Are there any improvements that you feel we could make to the product?</b>				

### III. QA Test Plan – Maximum 2.5 pages

The purpose of this test plan is to ensure that the edit patient function works properly. The edit function is part of the Manage as an Admin feature. Participants will need an electronic device equipped with a browser and internet access, such as a computer, tablet, or phone, to complete this test. Participants may evaluate the edit patient function by going to the CyberHealth website by entering the following URL: [https://lamp.cse.fau.edu/~cen4010\\_fa21\\_g22/test2](https://lamp.cse.fau.edu/~cen4010_fa21_g22/test2) followed by the admin credentials username: admin1 and password: abc. After signing in successfully, the user will be able to see all the information on all the patients and doctors in our CyberHealth system. By using the edit function in the patients tab, administrators can edit the data associated with patients, including username, password, first and last name, birth date, phone number, insurance number, address, medical record, and case information. The medical record contains information about the patient's status, diagnosis, gender, description, assigned doctor, medication, and allergies. If the administrator wishes to successfully edit the information of a patient, he or she must fill out all the necessary fields with the correct values; otherwise, the CyberHealth system should prompt the user with an error message indicating the incorrect values.

Test #	Title	Description	Input	Expected Output	Results Browser	
					Chrome	Internet Explorer
<b>1</b>	Functionality	The credentials of a member	Username: patient5 Password: 786Ntp Confirm Password:	Successfully update information for	PASS	PASS

		will be successfully updated given all the correct values	786Ntp Phone number: 2342355678	patient5  Message: Successfully updated patient5		
2	Phone number Functionality	Ensure that all required fields' inputs are validated. The phone number input should be of ten numbers.	Username: patient7 Password: abc Confirm Password: abc Doctor Assigned: Jame Bond First name: Kamala Last Name: Khan Email: inhuman@yahoo.com Birthday: 06/16/2016 Phone number: 12 Insurance Number: 1234567890 Diagnosed: yes Status: mild Gender: female	The phone number field received two numbers rather than ten numbers, so the patient7's information will not be updated.  Error Message: Phone number is required	PASS	PASS
3	Security Functionality	Verify that your password and confirm password fields are functioning properly	Username: patient2 Password: abc Confirm Password: a	Patient2's credentials won't be updated since password does not match confirm password  Error Message: Confirm Password does not match	PASS	PASS

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## IV. Code Review

1. Prove of communication:

### CEN 4010 - Peer Review for Milestone 4



**Trang Leminh, Huy Nguyen**  
CEN 4010-001: Prin Software Engineering

November 15, 2021 at 9:00pm



Hi Huy,

Your code looks good! I made a couple of comments in the .php file you sent over so please take a look. Thank you for your review as well. Cheers!

Best regards,  
Trang Leminh

[edit\\_commented.php](#)

2. Link for reviewed and commented file:

[https://github.com/nhatrangtrannt/cen4010\\_fa21\\_g22/tree/main/Documents/Code%20review](https://github.com/nhatrangtrannt/cen4010_fa21_g22/tree/main/Documents/Code%20review)

## V. Self-check on best practices for security – 1/2 page

- 1) List major assets you are protecting  
Usernames and Passwords
- 2) Confirm that you encrypt password in the DB  
Passwords are encrypted using

```
$hashedpassword = password_hash($password, PASSWORD_DEFAULT);
```

ID	Username	Password
1	doctor1	\$2y\$10\$W9/jhPn5/PLB500hTqo7fe.UOKQ1rsjvQwzG2rw8JUkv/cZ8BkACW
2	doctor2	\$2y\$10\$W9/jhPn5/PLB500hTqo7fe.UOKQ1rsjvQwzG2rw8JUkv/cZ8BkACW

- 3) Confirm Input data validation (list what is being validated and what code you used) – we request that you validate search bar input;

Username Validation: Verifying the entered username against the database to ensure that it is not already in use

```
// Validate username
if (empty(trim($_POST["username"]))) {
    $usernameError = "Username is required";
} elseif (!preg_match('/^[a-zA-Z0-9_]+$/', trim($_POST["username"]))) {
    $usernameError = "Username is not valid";
}
$sql = "SELECT * FROM ".$table." WHERE username = '$username'";
$stmt = mysqli_query($conn,$sql);

if (mysqli_num_rows($stmt) > 0) {
    $usernameError = "Username is taken.";
}
```

## VI. Self-check: Adherence to original Non-functional specs

1. Performance: loading time should not exceed 1 second for users **DONE**
2. Reliability: users can access the website 98% of the time without failure **DONE**
3. Recoverability: if problems happen to the website, it should be recovered no more than three days for major ones and 8 hours for minor ones **ON TRACK**
4. Storage: The storage of our system will use lamp.cse.fau.edu server holding our mySQL databases within an unknown capacity **DONE**
5. Expected Load: Our system is expected to make allowances for up to 50 users at the same time
6. Security \*\*\*: Only admin can view doctors and patients' information. Only doctors can view a patient's medical record **ON TRACK**



7. Compatibility: the website must work on multiple browsers (chrome, safari, etc.) and devices (tablet, phone, laptop, etc.) **DONE**
8. Usability\*\*\*: the website must be user-friendly and prioritize user experience **DONE**
9. Data integrity\*\*\*: the system must keep all doctors and patient data secure and fully back-up for every record **DONE**
10. Easy to use: the website should be easy to use to any users, even in their first visiting. **ON TRACK**

\*\*\*: prioritize requirement.

## VII. Team

Group name: 22

Scrum master: Huy Nguyen

Product owner: Nha Tran

Front End Developer: Nelly Delgado Planche, Huy Nguyen

Back End Developer: Nha Tran

## VIII. History table

Document	Date	Note	Professor's feedback
M1 Proposal	09/28/2021	First M1 submission	
M3 Updated	10/25/2021	Revise M1	
M4 Beta	11/15/2021	Beta Launch	

## IX. References

- Jafari, L. (2020, December 26). *What Are Non-Functional Requirements? Types and Examples*. WINaTALENT | Blog. <https://winatalent.com/blog/2020/05/what-are-non-functional-requirements-types-and-examples/>
- Funke, D. U. T. (2021, August 9). *Fact check: Hospitals staff near max capacity, but COVID-19 isn't business as usual*. USA TODAY. <https://eu.usatoday.com/story/news/factcheck/2021/08/09/fact-check-covid-19-surge-overwhelms-hospitals-beyond-bed-capacity/5472960001/>
- Healthcare Workers*. (2020, February 11). Centers for Disease Control and Prevention. <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html>