CYBERHEALTH – MILESTONE 4

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# **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>

# **Usability Test Plan – Maximum 2 pages**

Select ONE major function (NOT login or registration) to be tested for usability. We recommend search or upload/post.

Write a usability test plan for this selected function. Please consult class material on developing usability test plan and questionnaire. This test plan is to contain:

1. Test objectives: 0.5 page
2. Test plan: System setup, starting point, task to be accomplished, who is the intended user, completion criteria, URL of the system to be tested. 3/4 page
3. Questionnaire form: 3 Lickert scale questions, in a form easy to be used by reviewer (check class slides). 3/4 page

Your test plan must be formatted to be easy to read and use by usability testers, including the questionnaire.

You can also ask your friends or team members to do the usability test.

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Strongly disagree | Disagree | Agree | Strongly agree |
| 1. Successfully log in using Admin account |  |  |  |  |
| 2. Clearly see all information displayed on the page |  |  |  |  |
| 3. Successfully edit patients using the edit button |  |  |  |  |
| 8. Are there any improvements that you feel we could make to the product? |  |  |  |  |

# **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> 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 |
| 1 | Functionality | The credentials of a member will be successfully updated given all the correct values | Username: patient5  Password: 786Ntp  Confirm Password: 786Ntp  Phone number: 2342355678 | Successfully update information for patient5  Message: Successfully updated patient5 | PASS | PASS |
| 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 |

(Note: Input only includes fields that have will be changed in the test)

# **Code Review**

By now you should have chosen a coding style. In the report state what coding style you chose.

Chose the code (substantial portion of it) related to the feature you used for QA and usability test. You need to submit an example of the code (or part of it – 2 pages or so MAX) for its function to be peer reviewed, and document this as follows:

1. One team member should submit code to other team member(s) for peer review.
2. Peer review should be performed by other group member(s) (1 review is OK).
3. Peer review is to be done by e-mail and comments are to be included in the code
4. Submit listing containing the peer review and commented code and communication related to this in your Milestone 4 document

Important: It is critical that code reviews are friendly and helpful, intended to help and education, and not to criticize. It is strongly suggested that you use peer review in the development of the whole system.

# **Self-check on best practices for security – ½ page**

1. List major assets you are protecting

Usernames and Passwords

1. Confirm that you encrypt password in the DB

Passwords are encrypted using

$hashedpassword = password\_hash($password, PASSWORD\_DEFAULT); 

1. 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.";

}

# **Self-check: Adherence to original Non-functional specs**

Copy all original non-functional specs as in high level application document published at the very beginning of the class and then for each say DONE if it is done (which is expected and required); ON TRACK if it is in the process of being done and you are sure it will be completed on time; or ISSUE meaning you have some problems and then explain it.

Note: you must adhere to all original non-functional specs as published in the original high-level specification document. Failure to do so may cause reduced grade

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.

# **Team**

Group name: 22

Scrum master: Huy Nguyen

Product owner: Nha Tran

Front End Developer: Nelly Delgado Planche

Back End Developer: Huy Nguyen

# **History table**

|  |  |  |  |
| --- | --- | --- | --- |
| **Document** | **Date** | **Note** | **Professor’s feedback** |
| M1 Proposal | 09/28/2021 | First M1 submission |  |
| M3 Updated | 10/25/2021 | Revise M1 |  |

# **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

# **Submission**

* Team lead submit Milestone 4 document to Canvas by due date
* Record a short demo of current status of your product and post it on YouTube. List your YouTube URL here.

# **Grading Criteria**

Your document needs to be well-written, well-organized (formatted) and reads well. Grading is based on cohesiveness and completeness.

1. Title page 10 points
2. Product summary 10 points
3. Usability test pan 20 points
4. QA test plan 20 points
5. Code review 20 points
6. Best practice for security 10 points
7. Non-functional requirements 10 points

**Total: 100 points**