

## **Introduction:**

Imagine you've just joined a dynamic software development company tasked with revolutionizing the healthcare industry through a cutting-edge Hospital Management Web App. This application, intricately designed on .Net Core for the backend, React for the frontend, and supported by MS SQL Server, is poised to redefine hospital operations.

**The sample dataset is also attached.**

## **Assignment Instructions:**

### **1. Usability and Functionality Testing:**

- a. Evaluate the user interface for usability and functionality.
- b. Identify and document any issues related to navigation, layout, and overall user experience.
- c. Test critical functionalities such as patient registration, appointment scheduling, and medical record retrieval for accuracy and completeness.

### **2. Automated Testing**

- a. Develop automated test scripts using a suitable testing framework (e.g., Selenium, Jest, NUnit) for key functionalities.
- b. Ensure the automated test suite covers end-to-end scenarios, including user authentication, patient data manipulation, and system notifications.
- c. Submit the automated test scripts along with detailed documentation on test coverage and execution

### **3. File Import with Form Field Testing:**

- a. Test the functionality of file import for patient records, ensuring compatibility with various file formats.
- b. Validate that form fields are correctly populated and linked with the imported file data.
- c. Verify that file imports do not lead to data corruption or loss and that error handling is effective.

### **4. Performance Testing:**

- a. Conduct performance testing to assess the system's responsiveness and scalability.
- b. Measure response times for critical operations under different load conditions.
- c. Identify and document any performance bottlenecks and propose recommendations for improvement.

### **5. Security Testing:**

- a. Perform security testing to identify vulnerabilities in the application.
- b. Test authentication and authorization mechanisms for robustness.
- c. Evaluate data encryption and protection measures.
- d. Provide recommendations for enhancing the overall security posture of the system.

### **Submission Guidelines:**

#### **1. Documentation:**

- a. Prepare a detailed document outlining your test plan and methodologies.
- b. Include step-by-step instructions for executing automated test scripts.

#### **2. Code Submission:**

- a. Submit the code for automated test scripts.
- b. Ensure the code is well-commented and easy to understand.

#### **3. Feedback and Recommendations:**

- a. Provide comprehensive feedback on any issues encountered during testing.
- b. Include recommendations for improvements or optimizations.

### **Timeframe:**

- You are expected to complete this assignment within 3 days from receiving it.

### **Evaluation Criteria:**

Your assignment will be evaluated based on the following criteria:

- Thoroughness and completeness of testing.
- Clarity and organization of documentation.
- Effectiveness of automated test scripts.
- Quality of feedback and recommendations.
- Creativity in identifying potential issues.

**We look forward to reviewing your submission and discussing your findings in our upcoming interview. If you have any questions, feel free to reach out.**

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### **For the Automated testing, go through the following instructions**

1. Use this link to access the app:  
<https://carepro-training.ihmafrica.com/> where username: tester and password: tester2023!,  
Province : Lusaka, District : Lusaka, Facility : Dr Watson Dental Clinic

Province \*  
Lusaka

District \*  
Lusaka

Facility \*  
Dr. Watson Dental Clinic

- At this screen go to NRC and enter 111111111  
(Training Portal)

## Search Client

NRC

NUPN

Cellphone

Name Search

Type NRC Number  
111111/11/1

Search

- Click attend to patient

Test CLIENT

DOB : 15-Oct-1972 (51Y)

Sex : Female

Cellphone : +260 971122355

Address: H#34, R#Mosi Road, Kabulonga, Lusaka

NUPN : 5006-03340P-00034-7

NRC : 111111/11/1

Edit Profile

Admission

Service Queue

Historical Visit

Attend to Patient

- This should bring you to “Vitals”

(Training Portal)

## Services



5. To open a new record, click “New Record”

## Vitals & Anthropometry

### Test Client

[Edit](#)

NUPN : 5006-03340P-00034-7  
Sex : Female  
DOB : 15-Oct-1972  
Age : 51 years 3 months 3 days

[Preview](#)

### HTS Status

Test Date : 25-Oct-2023  
Test Result : Positive (Patient's ART ...  
HIV Type :

[Preview](#)

### Vitals

Weight(kg) : 789.03  
Height(cm) : 558.00  
BMI : 25.34  
Blood Pressure : 95 / 88

[Preview](#)[+ New Record](#)

**Date:** 17-Jan-2024

**Facility :** Dr. Watson  
Dental Clinic

**Clinician :** tester tester

[View](#) [Edit](#)

Vital Time	Weight (kg)	Height (cm)	BMI	Temperature (c)	Blood Pressure (mmHg)
16:06	789.03	558.00	25.34	36.80	95/88 - High Blood Pressure

6. This is now the part to automate

Patient Information

Date \*

Time \*  
--:--

Weight (kg) \*

Height (cm) \*

Temperature (c) \*

Systolic (mm...

Systolic Unrec...  
Select

Diastolic (m...

Diastolic Unrec...  
Select

Pulse Rate (bpm)

Respiratory Rate (b...

Oxygen Saturation (...)

MUAC(cm)

MUAC Score

Abdominal Circumf...

Head Circumferenc...

HC score

- Automate to upload the given sample dataset  
Upload your well-tested code in GitHub and share with us on the following emails:  
[aninda@excelbd.com](mailto:aninda@excelbd.com); [mahdi@excelbd.com](mailto:mahdi@excelbd.com); [azmin@excelbd.com](mailto:azmin@excelbd.com)