HP

COVID DETECTION APP

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AN ENG224 PRESENTATION BY AMADI-DURU,C.MELVIN

Conceptualization: the idea being a revolutionary application that can help with the detection and analysis of the general health condition of a human being. Design conceptualization is the process of generating ideas for an optimum solution to the design problem. These ideas should stem originally from the product idea and stated definitions of the design problem

Specification: A **specification language** is a formal language in computer science used during systems analysis, requirements analysis, and systems design to describe a system at a much higher level than a programming language, which is used to produce the executable code for a **system. This is the breakage of the application into modules**

Design

Prerequisites

To make a data-centric web app from the bottom-up, it is advantageous to understand:

1. Backend language (e.g. Python, Ruby) - control how your web app works
2. Web front end (HTML, CSS, Javascript) - for the look and feel of your web app
3. DevOps (Github, Jenkins) - Deploying / hosting your web app

The design involves the use of a flowcharts and algorithms to represent in detail the design stages of the web based app development. The below are the design protocols followed

-SKETCHING: During the sketching stage; *navigation, branding, forms, buttons and any other interactive* elements that'll help the patient communicate with the health personnel are required. Taking the COVID app's functionality into consideration, a conscious effort on the overall design is put into play. Also, notes shall be taken if in the nearest future alterations are to be made.

- ***PLANNING THE WORKFLOW*:** In simple terms this would involve putting ourselves in the shoes of the user. It'll involve putting down various workflows for the application such as :

-How does a user signup on the COVID app

-Do they receive a verification email from the health officials

-How does a user login on the app

-How does a user change their password

-How does a user navigate through the app e.g From the sign in page to the test results

-How does a user change their user settings e.g The health official assigned to the user

After which all the different web pages the app will contain is written down and also the stages of each page.

- ***WIRE FRAMING/PROTOTYPING THE UI***: Wire framing is the process of designing a blueprint of your web application while prototyping is taking wire framing a step further, adding an interactive display. Both of these can be done with the use of AdobeXD ; a wire framing/prototyping tool.

Implementation

It is during this phase that the project becomes visible to outsiders, to whom it may appear that the project has just begun. In summary, the web based application is put out into the public for usage and early feedback.

Testing & Debugging

Also, its important to know the testing that is done during debugging has a different aim than final module testing. Final module testing aims to demonstrate correctness, whereas testing during debugging is primarily aimed at locating errors.

Release & Update

This is the publishing of the web application for usage to the public.

HARDWARE & SOFTWARE FEATURES

HARDWARE SYSTEM

-SENSORING SYSTEM: This includes the retina and temperature scanner hardware attached to the system. It takes the temperature and vitals of the patient

-DISPLAY SYSTEM: This displays the result of the sensoring system test.

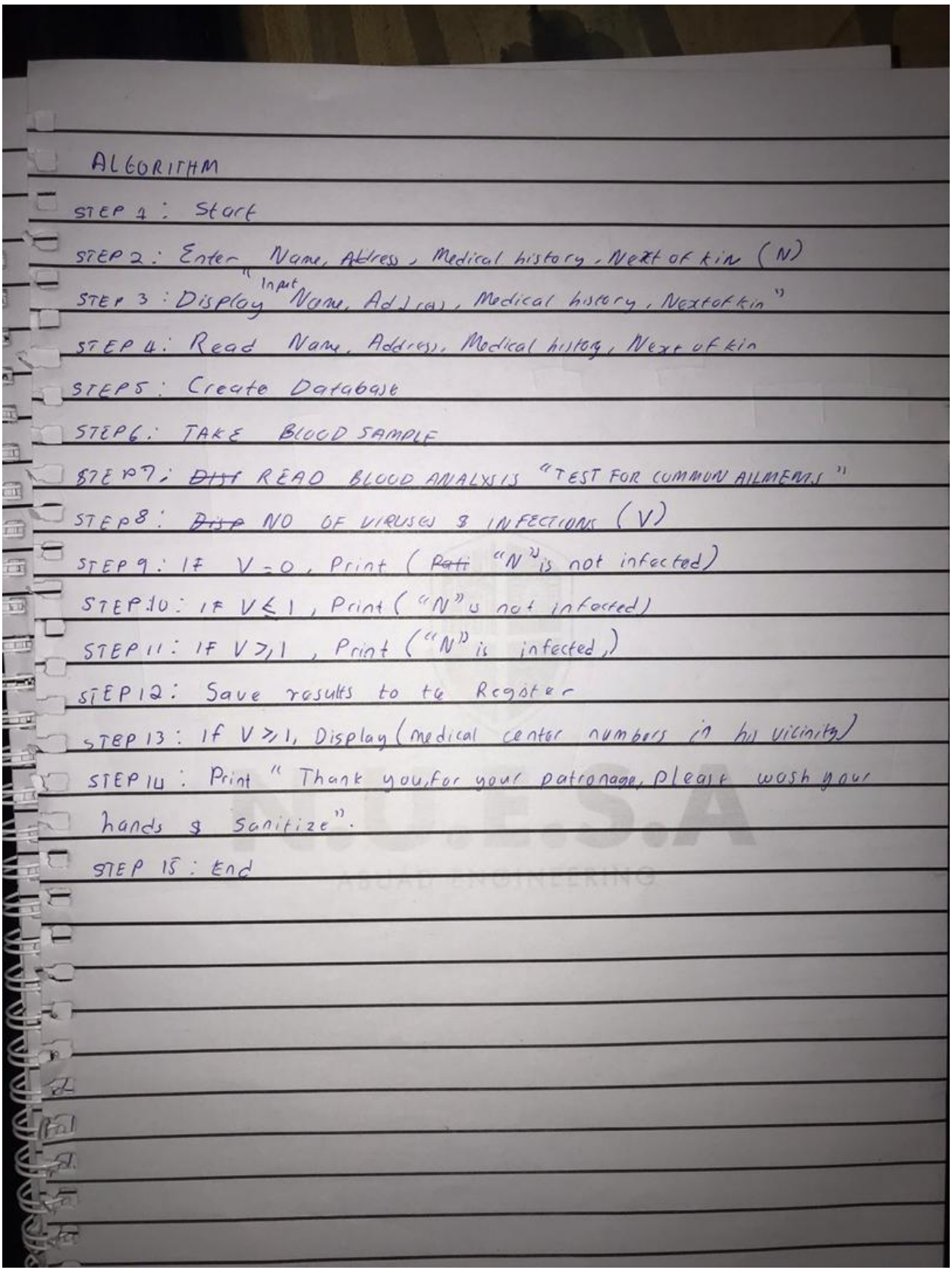
-PRINTER: This prints out the final result and address of medical centers near the patient that he could get treatment if found positive to any ailment.

SOFTWARE FEATURES

-GUI: This is the interactive surface which the user is able to log in and modify or check his statistics -

STORAGE: A register where all the information is stored

ALGORITHM



ALGORITHM

STEP 1 : Start

STEP 2 : Enter Name, Address, Medical history, Next of kin (N)

STEP 3 : Display "Input Name, Address, Medical history, Next of kin"

STEP 4 : Read Name, Address, Medical history, Next of kin

STEP 5 : Create Database

STEP 6 : TAKE BLOOD SAMPLE

STEP 7 : ~~Dist~~ READ BLOOD ANALYSIS "TEST FOR COMMON AILMENTS"

STEP 8 : ~~Dist~~ NO OF VIRUSES & INFECTIONS (V)

STEP 9 : IF V = 0, Print (~~Pati~~ "N" is not infected)

STEP 10 : IF V ≤ 1, Print ("N" is not infected)

STEP 11 : IF V ≥ 1, Print ("N" is infected)

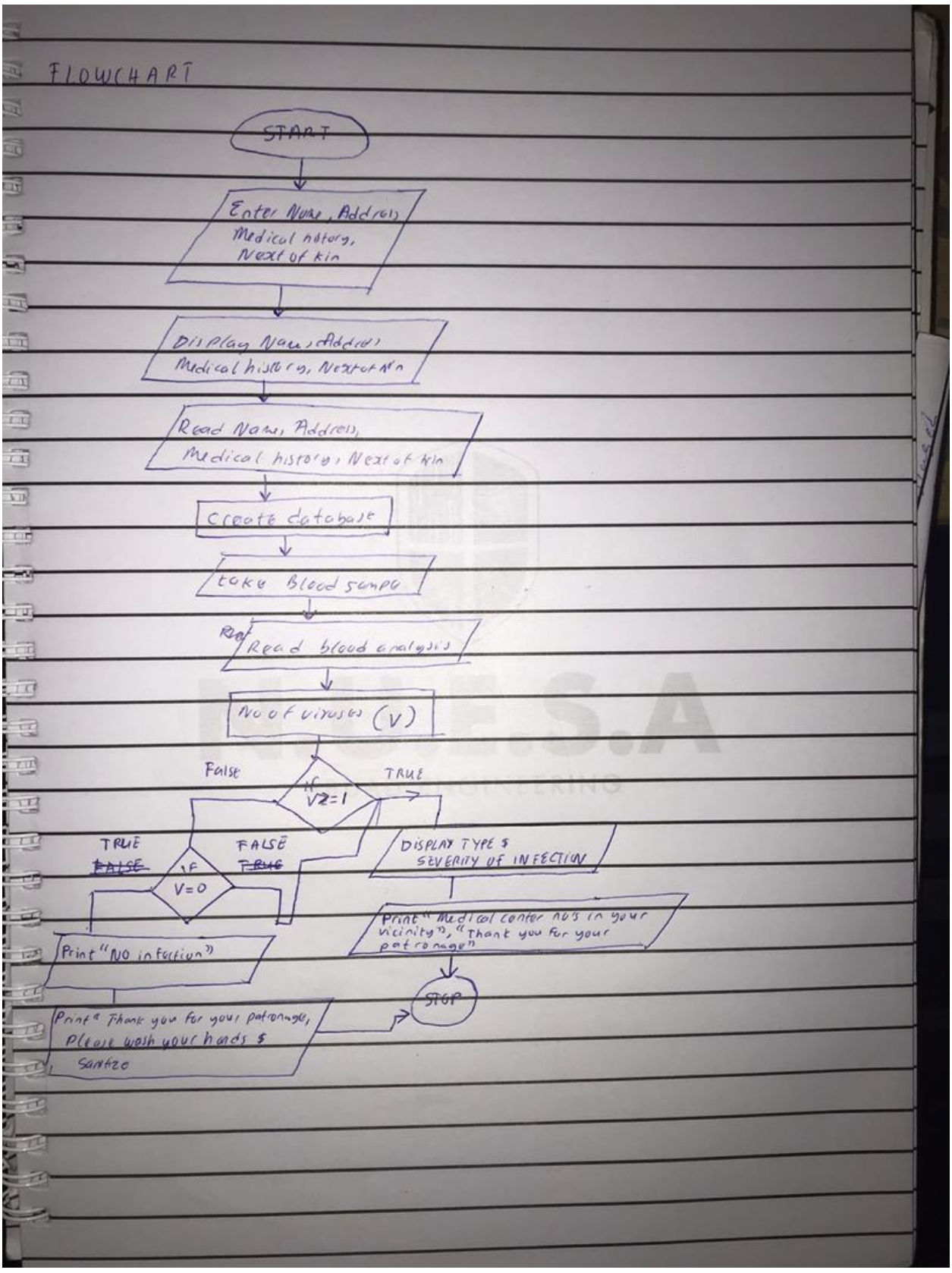
STEP 12 : Save results to the Register

STEP 13 : If V ≥ 1, Display (medical center numbers in his vicinity)

STEP 14 : Print " Thank you for your patronage, Please wash your hands & Sanitize".

STEP 15 : End

LOW CHART


FLOWCHART
START
Enter Name, Address
Medical history,
Next of kin
Display Name, Address
Medical history, Next of kin
Read Name, Address,
Medical history, Next of kin
Create database
take Blood sample
Read blood analysis
No of viruses (V)
False
if
V2=1
TRUE
TRUE
FALSE
if
V=0
FALSE
DISPLAY TYPE & SEVERITY OF INFECTION
Print "Medical center No's in your vicinity", "Thank you for your patronage"
Print "NO infection"
STOP
Print "Thank you for your patronage, Please wash your hands & Sanitize

TOP-DOWN