

MATRIC NO: 17/MHS01/314

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DEPARTMENT: MECHANICAL ENGINEERING

COURSE: Structured Computer Programming

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### CONCEPTUALIZATION

A web-based application to share, distribute and submit updates based on detection of infection in persons, treatment, confirmed cases, discharged, deaths, etc through medical institutions worldwide and country governments with close supervision by the World Health Organization.

### SPECIFICATION

i. Application name: PanmedExpress

ii. Multiuser level to access information

- > Citizens of several countries access to high risk areas/states and government upheld motions to control the spread of the disease.
  - > Citizens with suspecting symptoms to check the possibilities of having ~~contracted~~ the disease and to contact disease control agency in the country.
  - > Citizens to get daily updates on confirmed cases, discharged and deaths in relation to the disease being certified by the World Health Organisation.
  - > Medical practitioners to share information concerning <sup>possible</sup> treatment and patient response to the disease.
  - > Government to upload correct information concerning risk areas, confirmed cases, discharged and deaths in relation to the disease.
  - > Government to upload call help numbers in suspicion of the disease.
  - > Government to upload to control spread of the disease in the country.
- iii. Security to information for different levels of access.
- iv. User defined display in real-time.

## DESIGN

It has menus referring to sign-in and about/credit pages with help and historical information of past diseases. The user-interface is simple and easy to understand. The security standard is international and patient or personal information shared/distributed via the application is stored in an off-site database. Steps of operation will be described in the flowchart.

## IMPLEMENTATION

The Panmed Express is implemented using these languages: C#, HTML, R, CSS, Javascript. The codes for an easy to understand interface were compiled to create this web-based application.

## TESTING / DEBUGGING

The Panmed Express was tested for some syntax errors and the codes were repaired. Test data and diagnostic tools such as step-in, step-out were used.

## RELEASE AND UPDATE

The Panmed Express was released for use with an avenue for feedback. Thus users identified some aspects of the application that needed modification.

## 2. Hardware and software features of the "Panmed Express"

### HARDWARE

i. At medical institution the web-based application database extension was connected with the memory of the devices used to treat patients and data was inputted into the application. Thus the tablets, laptops, automatic instruments were hardware for the ~~app~~ application.

- ii. The Government and institutions that are in contact with the medical institutions ~~make~~ <sup>make</sup> use of laptops, tabs, phones to sign-into the application.
- iii. Citizens and people that logged-in for different information made use of common devices that thus constitute the hardware.

### SOFTWARE

- i. Backend databases
- ii. Server side programming which provides functionality of user interaction and databases.
- iii. Result generating ~~result~~ <sup>browser</sup>.

### 3. Top-down design approach.

