COMP6030 Coursework – Subsystem (d) – Crownpass Vaccinator mobile app

* *Crownpass Vaccinator*: To deliver the functions for the operation staff of vaccination stations in the form of a mobile App.
* *Operation Staff Members of Vaccine Stations/Centres*: They are individuals working in the vaccine stations/centres and responsible for recording the vaccinations performed. They may have variant digital literacy and experiences of using mobile devices. They will be provided a mobile device (such as an iPad or a mobile phone) to perform the related tasks.

Functional requirements

## Functional Requirements of Operation Staff of Vaccine Stations/Centres

**FR-OV-01: Record Vaccinations.** The operation staff members of a vaccine station/centre should be provided with a facility to record the vaccinations done for Crownpass holders. The following data of vaccination should be recorded:

1. The person’s unique Crownpass ID number,
2. The date that the vaccine is injected,
3. The time slot that the vaccine is injected,
4. The name of the vaccine injected,
5. The batch number of the vaccine,
6. The vaccine station/centre where the vaccine is injected,
7. The nurse who conducted the injection,
8. The staff Id of the person who entered the record into the system.

The initial state of vaccination is *White*. When a vaccination is performed and/or a record of the vaccination is entered to the system, the event will trigger the transition of the state of the Crownpass as follows:

1. the Crownpass state is changed to Light Blue if it is the first vaccine of the Crownpass holder.
2. The Crownpass state is changed to Dark Blue if it is the second vaccine of the Crownpass holder.

The other rules of Crownpass state transition as stated in **FR-ST-01** remain valid.

* **FR-ST-01: Enter Test Result**. The system should enable the staff of Covid-19 Virus Test Centres to enter test results to the Crownpass tracking system. When a test result of a Crownpass holder becomes available, the test result will trigger the transition of the state of the Crownpass as follows:

1. If the test result is POSITIVE, the Crownpass state must be changed into RED, no matter which state the Crownpass is currently in.
2. If the test result is NEGATIVE, the Crownpass state should be changed into GREEN no matter whichever state the Crownpass is currently in.
3. If the test result is UNDECIDED, the state of the Crownpass should remain as it is.

(*Priority: High*)

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**FR-OV-02: Registration and Management of User Accounts**. The operation staff members of vaccine stations/centres should be provided with a facility to view, set up and update the data associated with his/her user account. (*Priority: High*)

**FR-OV-03: Managing Vaccination Bookings**. The operation staff members of a vaccine station/centre should be able to view the bookings of a date and time slot, to add new bookings into the system and remove an existing booking from the system on behalf of a Crownpass holder. The operation staff members should also be able to update the booking state from booked to completed when a vaccination is done. (*Priority: High*)

Non-functional requirements

NFR-01: **QR-SC-06: Vaccine Station**. The system should be able to provide services to all vaccine stations of the country to the scale of the total number of vaccine stations is around 20,000 nationally. The numbers of staff in a vaccine station range between 20 to 200 and on average is around 50. The number of vaccinations may reach 100,000 per day in total nationally.

NFR-02: **QR-PF-11: Enter Test Result**. The response time for the operation of entering a test result to the system should be no more than 5 seconds.

NFR-03: **QR-PF-13: Enter vaccination data**. The response time for each operation in the process of entering vaccination data should be no more than 3 seconds.

NFR-04: **QR-RE-04: Mobile Apps Failure Rate**. For each mobile App on each platform and for each type of users, the failure rate should be lower than 0.3% per use.

NFR-05: **QR-RE-08: Functional Error Rate**. Error to perform various functions of the system should be lower than the following error rates according to the types of functions.

* Entering Test Result and vaccination data: The failure rate to enter the test results and vaccination data to the system should be lower than 0.0001%.
* Update Crownpass state: The failure rate to update Crownpass states should be lower than 0.0001%.

NFR-06: **QR-SE-01: Individual User Data Privacy Protection.** The Crownpass holder can view the virus test results and vaccination data and the state of the pass of his/her own, but not modify these data.

NFR-07: **QR-PC-01: Mobile Apps Platform.** The mobile App for each type of users must be available for top 5 smart mobile phone operating systems (including different versions), and top 10 makes and models.

NFR-08: **QR-US-01: Mobile Apps GUI**. For each user type, the mobile app should provide a graphic user interface and a short operation procedure with no more than three steps for users to use the mobile application. The HCI design of the mobile apps should have the following properties.

1. The user interface and operation procedure of each mobile app running on different platforms should be recognisably identical.
2. The user interface should comply with the accessibility standard [2].
3. The user interface should adapt to the screen size automatically.

NFR-09: **QR-US-02: Online Helps**. For each user type, online help should be provided in the form of video clips shown how to use the systems in various scenarios.