18059081

COMP6030 - Software Engineering

Crownpass Case Study Coursework - 18059081

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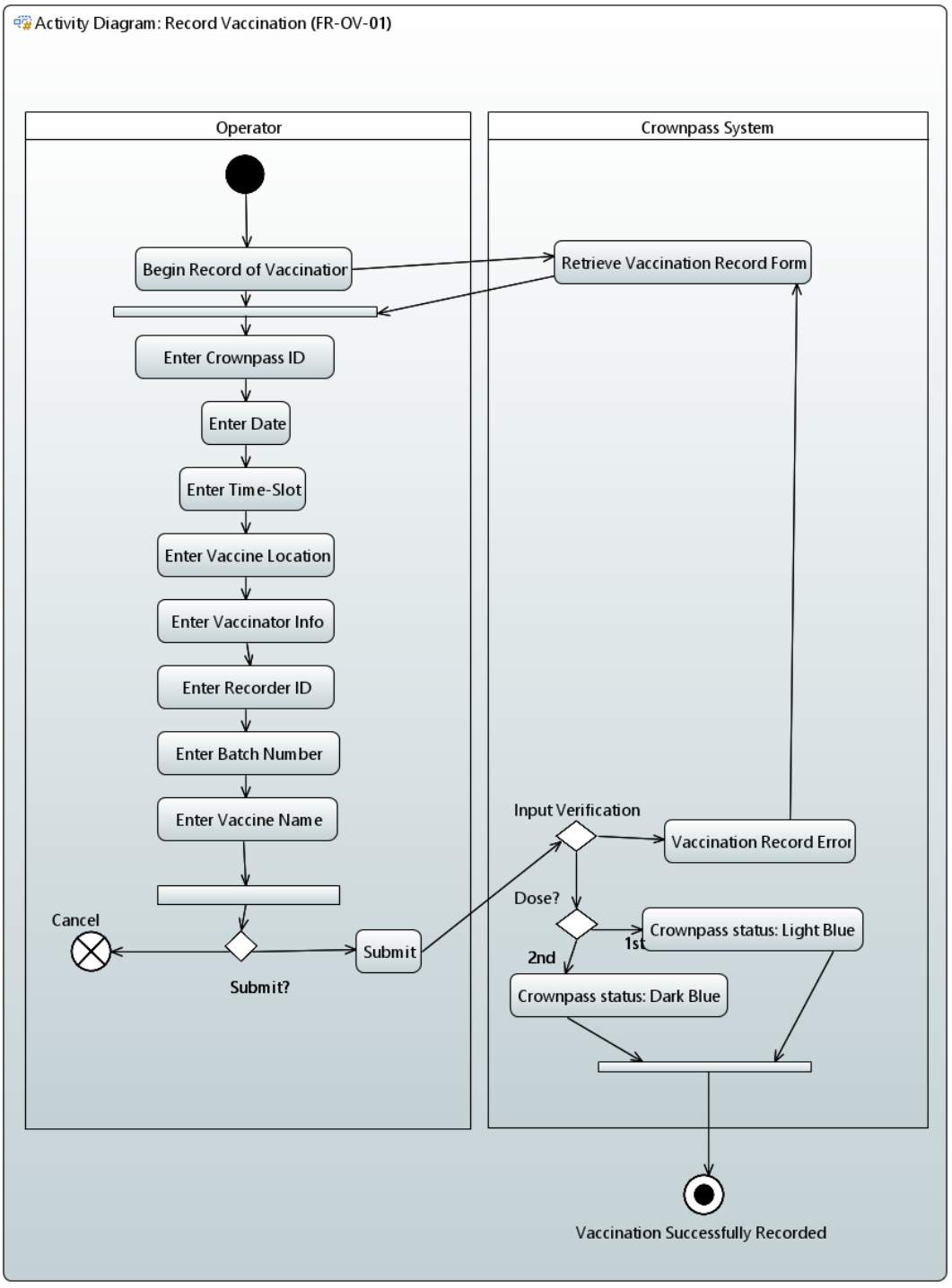
0A: Subsystem: Vaccinator

1A: Activity Diagram



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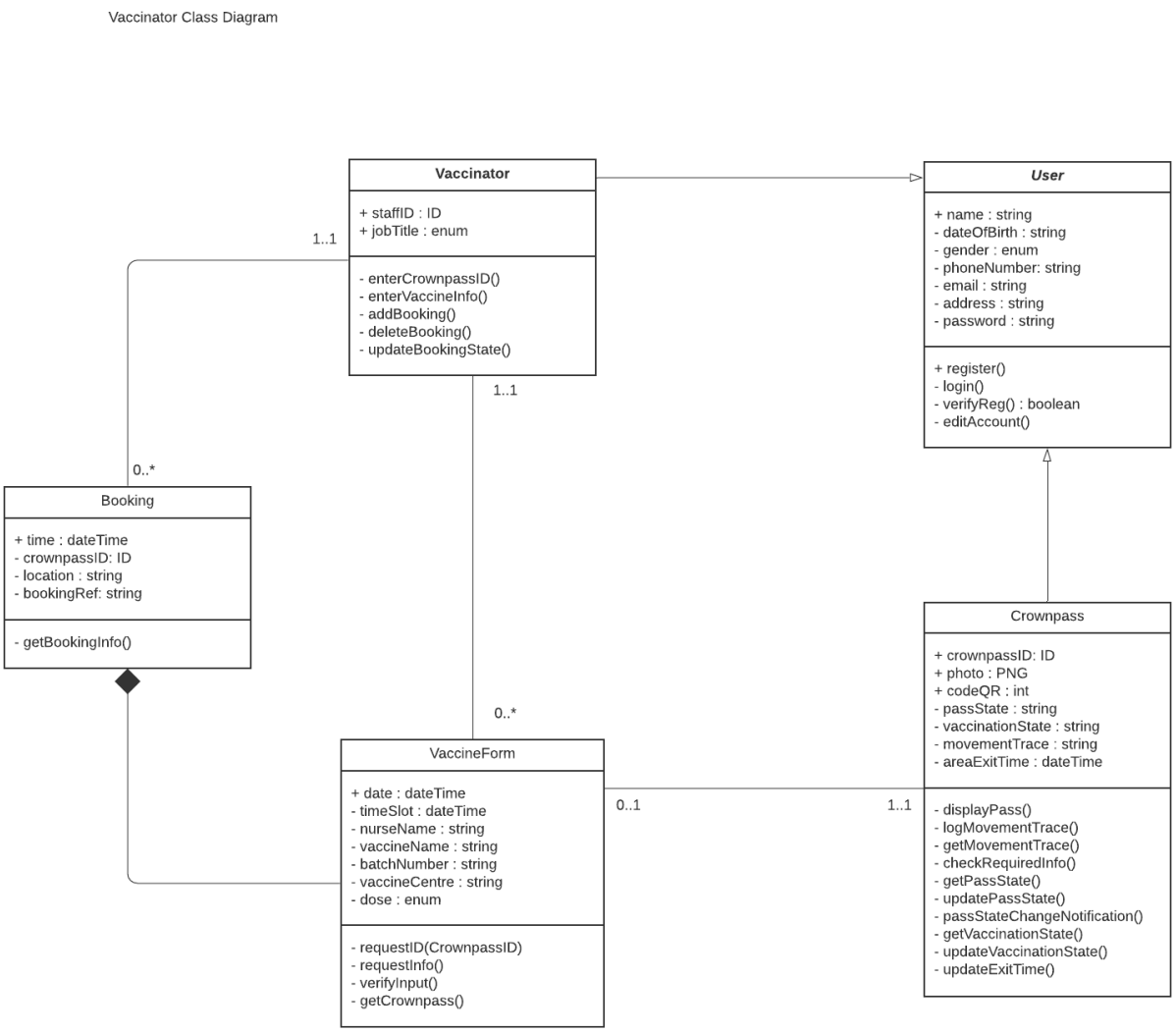
1B: Class Diagram



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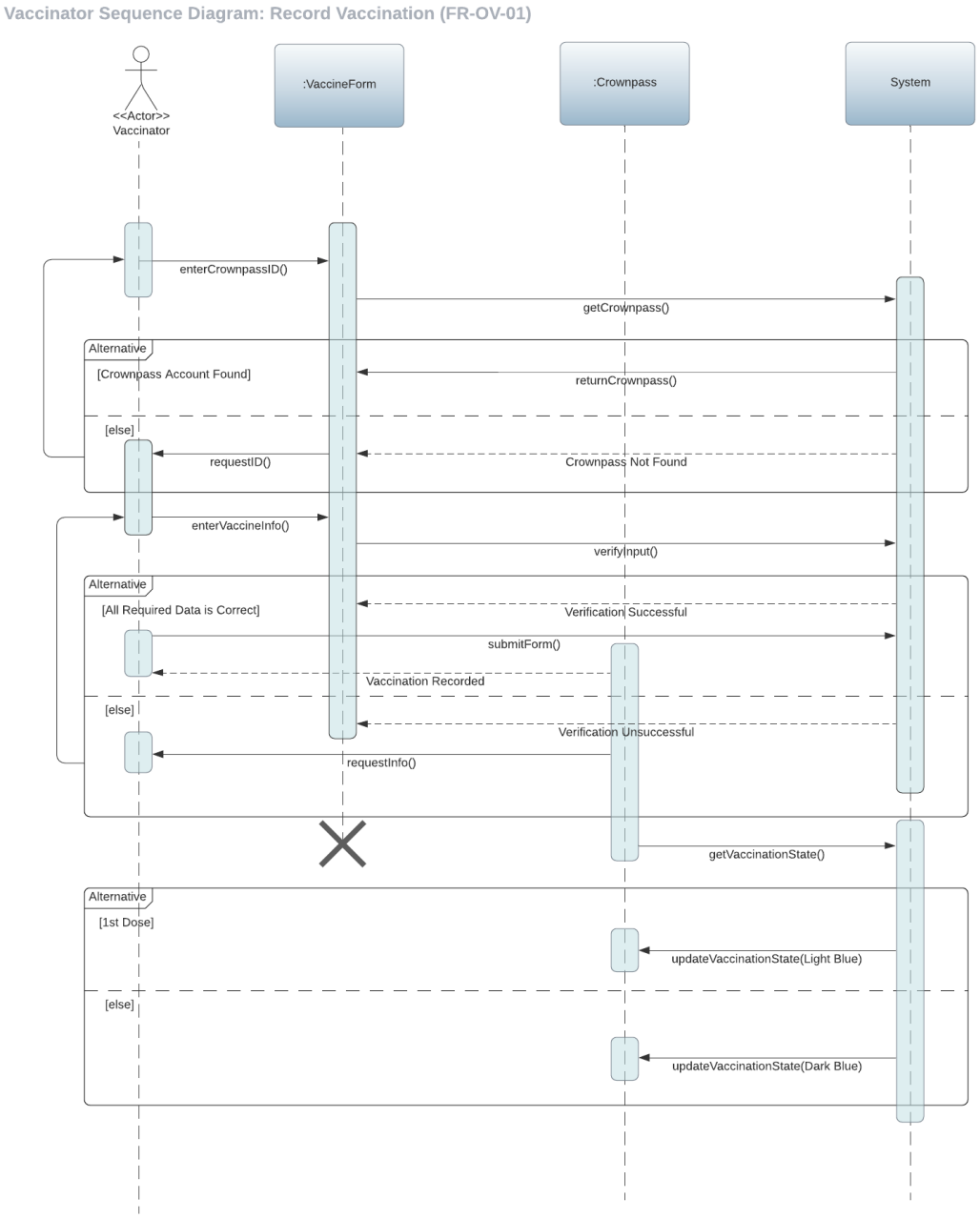
1C: Sequence Diagram



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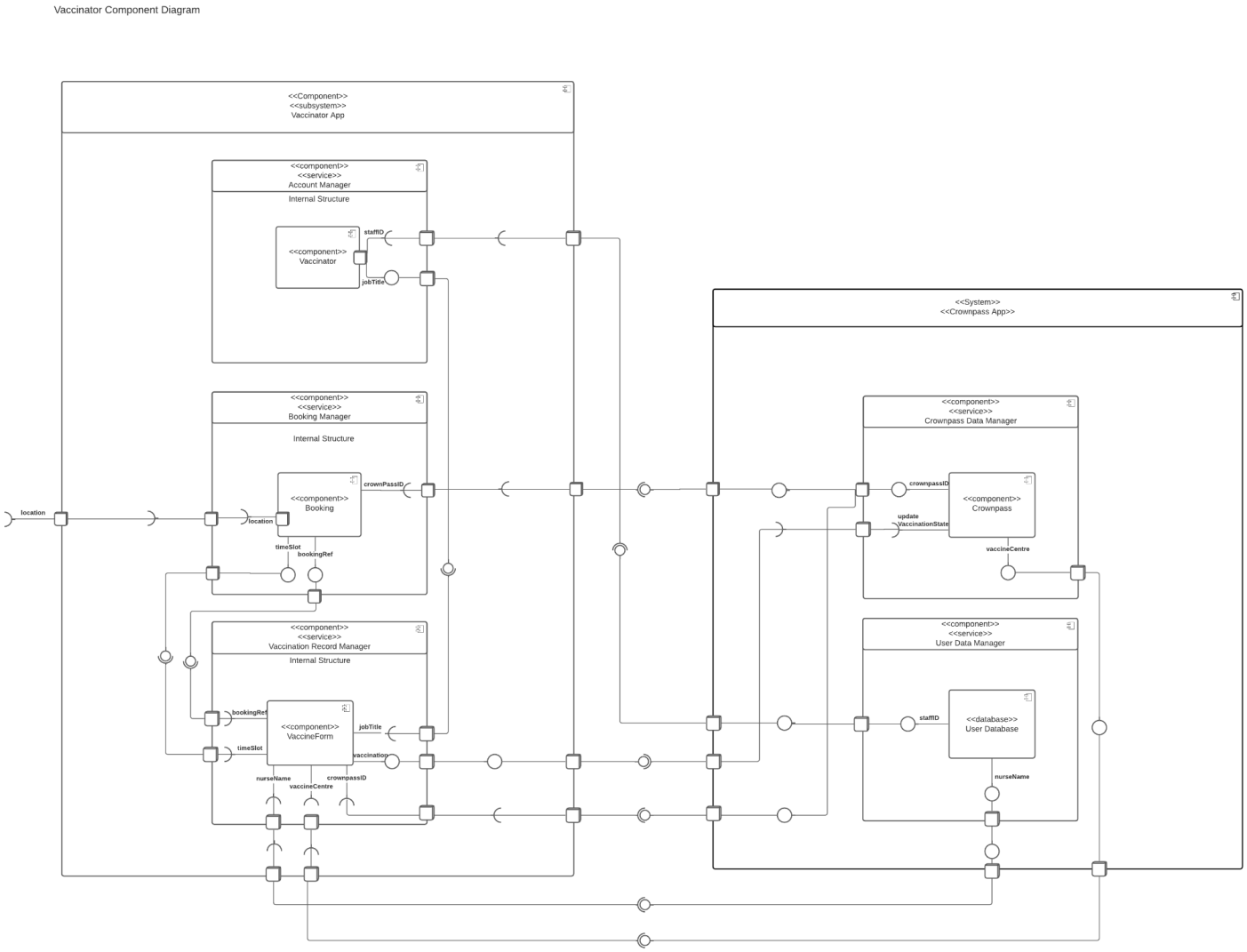
2B: Component Diagram



3A: Unit Test Plan: Vaccinator Subsystem (:Vaccinator Class)

Class to test:	Vaccinator	
Test Case:	Method and Parameters	Expected Output
CrownpassID entry successful	enterCrownpassID(CrownpassID)	Crownpass ID found and returned from database
CrownpassID entry unsuccessful	enterCrownpassID(CrownpassID)	Error message: Invalid crownpass ID
Vaccine Info	enterVaccineInfo(date, timeSlot, nurseName, vaccineName,	Confirmation of submission

entry successful	batchNumber, vaccineCentre, dose)	message
Vaccine Info entry unsuccessful	enterVaccineInfo(date, timeSlot, nurseName, vaccineName, batchNumber, vaccineCentre, dose)	Error message: Missing or incorrect values for one or more values
Booking added successfully	addBooking(time, crownpassID, location, bookingRef)	Confirmation of booking message
Booking add unsuccessful	addBooking(time, crownpassID, location, bookingRef)	Error message: Booking could not be added
Booking deleted successfully	deleteBooking(time, crownpassID, location, bookingRef)	Booking deletion successful
Booking delete unsuccessful	deleteBooking(time, crownpassID, location, bookingRef)	Error message: Booking could not be deleted

3B: System Test Plan: Record Vaccination (FR-OV-01)

List of possible scenarios:

1. Sumit incorrect/invalid data into fields - sent back to start
2. Data verified successfully, 1st dose
3. Data verified successfully, 2nd dose
4. Crownpass ID not found in database
5. Recorder ID not found in database
6. Cancel before submission

Scenario 1: Vaccination form submitted with incorrect or invalid data in one or more entry points

Vaccinator	System
1. Enter Crownpass ID	
2. Enter date	
3. Enter time-slot	
4. Enter location	
5. Enter vaccinator information	
6. Enter Recorder ID	

7. Enter batch number	
8. Enter vaccine name	
9. Submit form (Fail: one or more entries invalid or incomplete)	
	10. Return error & send user back to start of form to re-enter information

Test Data: Scenario 1

Input:

this applies to all non-ID data entry points. This is one example of this type of scenario to avoid repetition

User (holder) details:

- Crownpass ID

Vaccine Booking details:

- Date (**incorrect format or missing***)
- Time-slot
- Location

Vaccine details:

- Vaccine name
- Batch number

Recording vaccinator details:

- Recorder ID (staff ID of person filling out form)

Nurse vaccinator details:

- Nurse name
- Nurse ID (staff ID of person who conducted the vaccination)

Stored data:

On Cloud:

- Crownpass ID, Date, location, vaccine name, vaccine batch number, Nurse ID, recorder ID, ready to match with input

Output:

- Error returned informing user that Date* is in the wrong format or was missing

Test Process: Scenario 1

Set up test context:

App: All data entry points filled in correctly to submit, expect Date*
Database: NA

Enter User and Vaccination Details:

Expected output:
- Some fields are missing or invalid.

Check: If outcome matches expected

Submit Form

Expected output:
- Error returned & send user back to start of form to re-enter information

Check:
- Correct error message displayed

Verify Crownpass ID

Expected output:
- Crownpass ID found in database

Check:
- Crownpass Account successfully retrieved

Verify Staff ID

Expected output:
- Staff ID found in database

Check:
- Staff Account successfully retrieved

Update Vaccination State

Expected output:
- Vaccination State updated based on vaccine history (1st dose)

Check:
- Outcome matches expected: all vaccination information is updated on Crownpass.

Scenario 2: Vaccination form data verified successfully: 1st Dose Vaccine

Vaccinator	System
1. Enter Crownpass ID	
2. Enter date	
3. Enter time-slot	
4. Enter location	
5. Enter vaccinator information	
6. Enter Recorder ID	

7. Enter batch number	
8. Enter vaccine name	
9. Submit form	
	10. Crownpass ID matched in database
	11. Recorder (staff) ID matched in database
	12. All information successfully submitted to Crownpass database (associated with correct Crownpass account)
	13. Retrieve vaccinationState (unvaccinated)
	14. Update vaccinationState (1st Dose: Light blue)

Test Data: Scenario 2

Input:

User (holder) details:
- Crownpass ID

Vaccine Booking details:
- Date
- Time-slot
- Location

Vaccine details:
- Vaccine name
- Batch number

Recording vaccinator details:
- Recorder ID (staff ID of person filling out form)

Nurse vaccinator details:
- Nurse name
- Nurse ID (staff ID of person who conducted the vaccination)

Stored data:

On Cloud:

- Crownpass ID, Date, location, vaccine name, vaccine batch number, Nurse ID, recorder ID, ready to match with input

Output:

- Dose updated

- Vaccination state transition to light blue

Test Process: Scenario 2

Set up test context:

App: All data entry points filled in correctly to submit
Database: Contain Crownpass ID and Staff IDs to match input

Enter User and Vaccination Details:

Expected output:
- All required fields filled in

Check:
- Outcome matches expected

Submit Form

Expected output:
- No issues with form fields

Check:
- Output matches the expected

Verify Crownpass ID

Expected output:
- Crownpass ID found in database

Check:
- Crownpass Account successfully retrieved

Verify Staff ID

Expected output:
- Staff ID found in database

Check:
- Staff Account successfully retrieved

Update Vaccination State

Expected output:
- Vaccination State updated based on vaccine history (1st dose)

Check:
- Outcome matches expected: all vaccination information is updated on Crownpass.

Scenario 3: Vaccination form data verified successfully: 2nd Dose Vaccine

Vaccinator	System
1. Enter Crownpass ID	
2. Enter date	
3. Enter time-slot	
4. Enter location	
5. Enter vaccinator information	
6. Enter Recorder ID	
7. Enter batch number	
8. Enter vaccine name	
9. Submit form	
	10. Crownpass ID matched in database
	11. Recorder (staff) ID matched in database
	12. All information successfully submitted to Crownpass database (associated with correct Crownpass account)
	13. Retrieve vaccinationState (1 previous vaccine)
	14. Update vaccinationState (2nd Dose: Dark blue)

Test Data: Scenario 3

Input:

User (holder) details:

- Crownpass ID

Vaccine Booking details:

- Date
- Time-slot
- Location

Vaccine details:

- Vaccine name
- Batch number

Recording vaccinator details:

- Recorder ID (staff ID of person filling out form)

Nurse vaccinator details:

- Nurse name
- Nurse ID (staff ID of person who conducted the vaccination)

Stored data:

On Cloud:

- Crownpass ID, Date, location, vaccine name, vaccine batch number, Nurse ID, recorder ID, ready to match with input

Output:

- Dose updated
- Vaccination state transition to light blue

Test Process: Scenario 3

Set up test context:

App: All data entry points filled in correctly to submit
Database: Contain Crownpass ID and Staff IDs to match input

Enter User and Vaccination Details:

Expected output:

- All required fields filled in

Check: If outcome matches expected

Submit Form

Expected output:

- No issues with form fields

Check:

- Output matches the expected

Verify Crownpass ID

Expected output:

- Crownpass ID found in database

Check:

- Crownpass Account successfully retrieved

Verify Staff ID

Expected output:

- Staff ID found in database

Check:

- Staff Account successfully retrieved

Update Vaccination State

Expected output:

- Vaccination State updated based on vaccine history (2nd dose)

Check:

- Outcome matches expected: all vaccination information is updated on Crownpass.

Scenario 4: Crownpass ID not found in database

Vaccinator	System
1. Enter Crownpass ID (fail)	
2. Enter date	
3. Enter time-slot	
4. Enter location	
5. Enter vaccinator information	
6. Enter Recorder ID	
7. Enter batch number	
8. Enter vaccine name	
9. Submit form	
	10. Crownpass ID not matched in database
	11. Return error & send user back to start of form to re-enter ID

Test Data: Scenario 4

Input:

User (holder) details:

- Crownpass ID **incorrect**

Vaccine Booking details:

- Date
- Time-slot
- Location

Vaccine details:

- Vaccine name
- Batch number

Recording vaccinator details:

- Recorder ID (staff ID of person filling out form)

Nurse vaccinator details:

- Nurse name
- Nurse ID (staff ID of person who conducted the vaccination)

Stored data:

On Cloud:

- Crownpass ID, Date, location, vaccine name, vaccine batch number, Nurse ID, recorder ID, ready to match with input

Output:

- Return error & send user back to start of form to re-enter Crownpass ID

Test Process: Scenario 4

Set up test context:

App: All data entry points filled in correctly to submit, except Crownpass ID
Database: Contain Crownpass ID and Staff IDs to match input

Enter User and Vaccination Details:

Expected output:

- All required fields filled in

Check: If outcome matches expected

Submit Form

Expected output:

- All fields have some input, all non-ID data points are verified by format

Check:

- Output matches the expected

Verify Crownpass ID

Expected output:

- Crownpass ID **not** found in database
- Return error & send user back to start of form to re-enter ID

Check:

- Correct error returned

Verify Staff ID

Expected output:

- Staff ID found in database

Check:

- Crownpass Account successfully retrieved

Scenario 5: Recorder ID not found in database

Vaccinator	System
1. Enter Crownpass ID	
2. Enter date	
3. Enter time-slot	
4. Enter location	
5. Enter vaccinator information	
6. Enter Recorder ID	
7. Enter batch number	
8. Enter vaccine name	
9. Submit form	
	10. Recorder (staff) ID not matched in database
	11. Return error & send user back to start of form to re-enter ID

Test Data: Scenario 5

Input:

User (holder) details:
- Crownpass ID

Vaccine Booking details:
- Date
- Time-slot
- Location

Vaccine details:
- Vaccine name
- Batch number

Recording vaccinator details:
- Recorder ID (staff ID of person filling out form) **incorrect**

Nurse vaccinator details:
- Nurse name
- Nurse ID (staff ID of person who conducted the vaccination)

Stored data:

On Cloud:

- Crownpass ID, Date, location, vaccine name, vaccine batch number, Nurse ID, recorder ID, ready to match with input

Output:

- Return error & send user back to start of form to re-enter Recorder ID

Test Process: Scenario 5

Set up test context:

App: All data entry points filled in correctly to submit, except Recorder ID
Database: Contain Crownpass ID and Staff IDs to match input

Enter User and Vaccination Details:

Expected output:
- All required fields filled in correctly

Check: If outcome matches expected

Submit Form

Expected output:
- All fields have some input, all non-ID data points are verified by format

Check: If output matches the expected

Verify Crownpass ID

Expected output:
- Crownpass ID found in database

Check:
- Crownpass Account successfully retrieved

Verify Staff ID

Expected output:
- Staff ID found **not** in database
- Return error & send user back to start of form to re-enter ID

Check:
- Correct error returned

Scenario 6: Vaccination form cancelled before submission

Vaccinator	System
1. Enter Crownpass ID	
2. Enter date	
3. Enter time-slot	
4. Enter location	
5. Enter vaccinator information	

6. Enter Recorder ID	
7. Enter batch number	
8. Enter vaccine name	
9. Cancel form	
	10. Exit from page (no form submission)

Test Data: Scenario 6

Input:

all optional, as nothing is submitted, and form is cancelled
User (holder) details:

- Crownpass ID (optional*)

Vaccine Booking details:

- Date (optional)
- Time-slot (optional)
- Location (optional)

Vaccine details:

- Vaccine name (optional)
- Batch number (optional)

Recording vaccinator details:

- Recorder ID (staff ID of person filling out form) (optional)

Nurse vaccinator details:

- Nurse name (optional)
- Nurse ID (staff ID of person who conducted the vaccination) (optional)

Stored data:

On Cloud:

- No data stored

Output:

- No Output- form cancelled

Test Process: Scenario 6

Set up test context:

App: No context, as data can be left blank if form will be cancelled
Database: No context required

Enter User and Vaccination Details:

Expected output:

- Fields optionally filled in

Check: NA

Submit Form

Expected output:

- Form cancelled instead of submitted
- User taken back to home screen

Check: If output matches the expected