Subsystem D – Unit Test Plan

Selected class of objects from my subsystem, the interface class from the component diagram ‘Record Vaccination’:

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| <<interface>>  Record Vaccination |
| +recordVaccination(vaccination: Vaccination)  +updateVaccinationState(holderId: int, vaccinationState: string) |

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| Test Case | Pre-conditions | Method and Parameters | Expected Output |
| Vaccination recorded | No vaccinations are currently stored inside Vaccination Database | recordVaccination(vacc1)  Vacc1 =  Vaccination(00000001, 00000001, 25/11/2021, 15:30:35, ‘Pfizer-02’, ‘XJ-149’, ‘Oxford Vacc Station 1’, 00000002, 00000003) | HolderId, BookingId “Vaccination Recorded successfully”  BookingId is returned for the updating of the booking status to ‘complete’.  The vaccination information is sent to the cloud to be stored in the Vaccination Database. Select \* from the database should return an entry:  1, 00000001, 00000001, 25/11/2021, 15:30:35, Pfizer-02, XJ-149, Oxford Vacc Station 1, 00000002, 00000003 |
| Vaccination recording failed due to holderId being null | holderId field cannot be NULL.  Note: it should be stated that no ID field can be NULL. | recordVaccination(vacc2)  Vacc2 =  Vaccination(NULL, 00000005, 25/11/2021, 17:30:35, ‘Pfizer-02’, ‘XJ-149’, ‘Oxford Vacc Station 1’, 00000002, 00000003) | Error message: “Vaccination recording failed, holderId cannot be NULL.” |
| Vaccination recording failed due to incorrect data type for holderId | Error handling complete with appropriate error messages | recordVaccination(vacc3)  Vacc3 =  Vaccination(‘Henry’, 00000001, 25/11/2021, 17:30:35, ‘Pfizer-02’, ‘XJ-149’, ‘Oxford Vacc Station 1’, 00000002, 00000003) | Error message: “Vaccination recording failed, holderId is incorrect data type. (expected ‘int’, received ‘string)” |
| Vaccination recording failed due to holderId not existing in the system | There is no holderId in User Database that is equal to 00000050 | recordVaccination(vacc4)  Vacc4 =  Vaccination(00000050, 00000005, 25/11/2021, 17:30:35, ‘Pfizer-02’, ‘XJ-149’, ‘Oxford Vacc Station 1’, 00000002, 00000003) | Error message: “Vaccination recording failed, holderId 00000050 does not exist.” |
| Vaccination State update triggered | Crownpass Holder associated with vaccination is registered & currently unvaccinated,  Vaccination has just successfully been recorded | updateVaccinationState(00000001, ‘Light Blue’)  Vaccination States are stored on the cloud and this method is triggered whenever a vaccination is recorded. I.e. it would check if current vaccinationState of the holderId = ‘White’ parse ‘Light Blue’ to the method | Select \* from User Database and finding userId = 00000001 the associated vaccinationState has been updated to ‘Light Blue’. |
| Vaccination State update failed | HolderId in question is already associated with a ‘dark blue’ vaccination state | updateVaccinationState(00000001, ‘Dark Blue’) | Vaccination state unchanged, still shows as dark blue. Returns error message “Cannot update vaccination state, holder is already in ‘dark blue’ state.” |

Unit test plan associated logic flow diagram:

Diagram

Description automatically generated