Product Requirements Document
Submission 1 Specification

Runtime Terror

SWEN90007 SM2 2021 Project

Release Tag:

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Revision History

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09/08/2021	1.00-D02	Added HCP Use Cases	Kah Chun Lee
10/08/2021	1.00-D03	Added Domain Model Description and Domain Model Diagram	Thomas Chen & Jad Saliba
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12/08/2021	1.00-D05	Added Document format and Filled in Remaining Use Case Descriptions	Kah Chun Lee
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14/08/2021	1.00-D07	Updated Domain Model Diagram with changes + review	Team
14/08/2021	1.00	First version of the document	Team

Contents

1. Introduction

1.1 Proposal

This document contains specifications for the SWEN90007 Vaccine Booking & Management System for Team Runtime Terrors. The specifications in this document include project use cases, actors to be implemented and the system's Domain Model.

1.2 Target Users

This document is intended for the SWEN90007 teaching team and our team.

1.3 Conventions, terms, and abbreviations

This section explains the concept of key terminologies, jargon and abbreviations that will be used throughout this document.
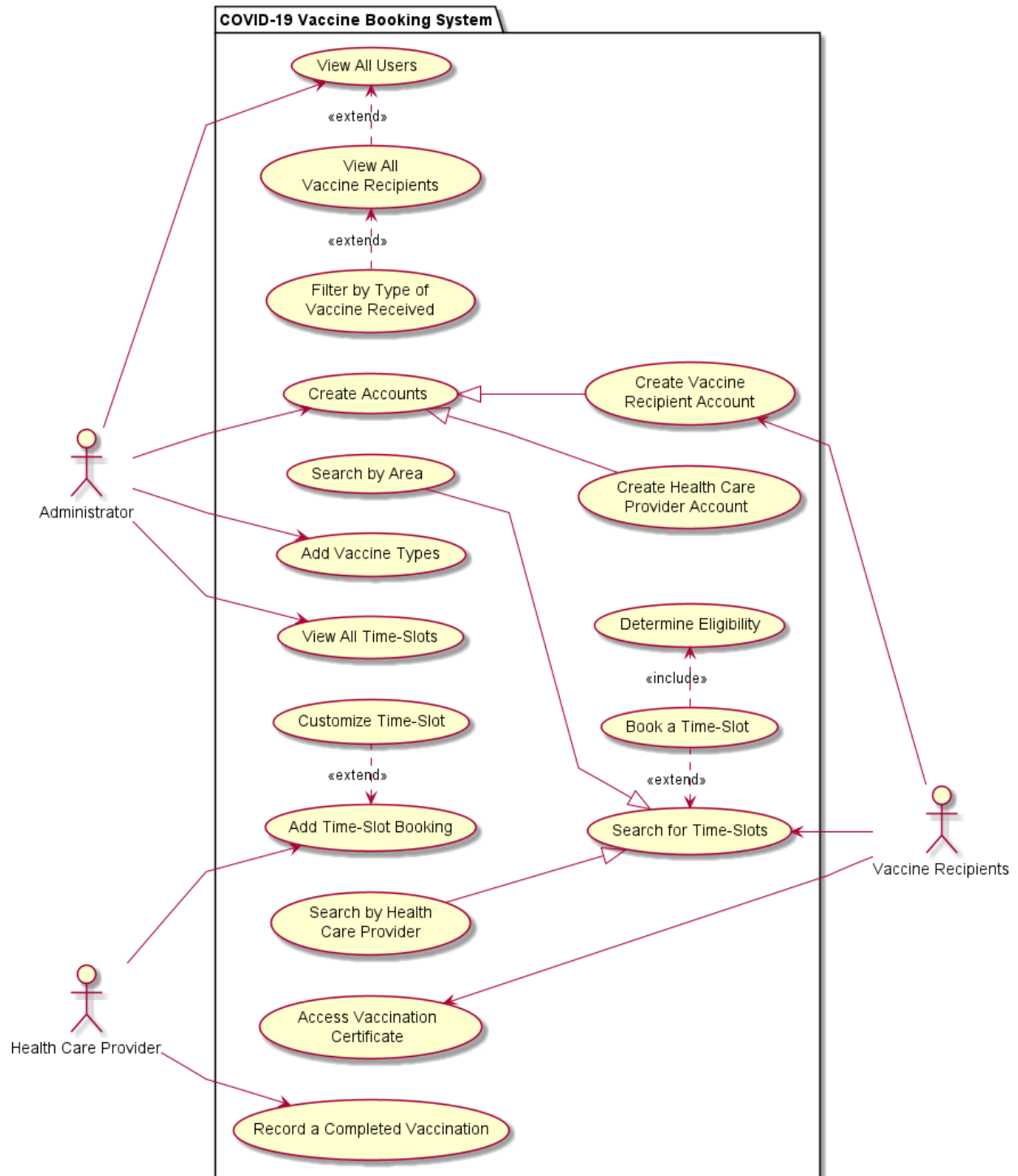
Term	Description
HCP	Health Care Provider. Ex. Clinics, Private Hospitals, Public Hospitals, Temporary Vaccination Centers etc.
DOB	Date of Birth, when a person was born
VR	Vaccine Recipient, users of the system that can register for vaccine bookings
VBS	Vaccine Booking System. The fictional system in discussion for this document that manages Vaccine Bookings in Australia.

2. Actors

Actor	Description
Health Care Provider	Health Care institutions that would be facilitating vaccinations to the public. These can be clinics, public hospitals, private hospitals or temporary vaccination centers.
Admin	Admin of the system that we assume to be employed by the Ministry of Health to manage the VBS.
Vaccine Recipient	The Australian population apart from the Admin who are all eligible to sign up onto the VBS and book a vaccination appointment.

3. Use Cases

3.1 Use Case Diagram

COVID-19 Vaccine Booking System

- View All Users
- View All Vaccine Recipients
- Filter by Type of Vaccine Received
- Create Accounts
- Create Vaccine Recipient Account
- Search by Area
- Create Health Care Provider Account
- Add Vaccine Types
- View All Time-Slots
- Determine Eligibility
- Customize Time-Slot
- Book a Time-Slot
- Add Time-Slot Booking
- Search for Time-Slots
- Search by Health Care Provider
- Access Vaccination Certificate
- Record a Completed Vaccination

Actors: Administrator, Health Care Provider, Vaccine Recipients

«extend», «include»

3.2 Use Case Descriptions

***Use Case 1*: Create Accounts**
Actors:
1. Administrator

Basic Flow:
The Administrator can create accounts for VRs and HCPs in the booking system. The Administrator receives a list of HCPs that are eligible for vaccine distribution and creates an individual account for each of them. When a VR is having trouble with their account registration, they can request the Administrator to complete their registration.

***Use Case 2*: Create Health Care Provider Account**
Actors:
1. Administrator

Basic Flow:
When the Administrator's office receives news of the opening of a new HCP that is eligible for administering vaccines to VRs, they navigate to "new HCP account creation page" and create a new account in the COVID-19 Vaccine Booking System. While creating the account, the Administrator adds in further details relevant to the HCP such as their name, postcode and the type of provider (GP, Hospital, Clinic, etc.). The HCPs can then access and use this account.

***Use Case 3*: Create Vaccine Recipient Account**
Actors:
1. Administrator
2. Vaccine Recipient

Basic Flow:
When a VR decides to take a COVID-19 vaccine, they will try to create an account on the COVID-19 Vaccine Booking System. When they land on the sign up page, they are asked to provide a government ID (e.g. driver's license), username and password that they can use to check details such as their vaccine booking time-slots whenever they want. If a VR is unable to create an account or they face problems during registration, they can request the Administrator to create the account for them. They are asked to provide details such as their first and last name, address, date of birth and gender.

***Use Case 4*: Add Vaccine Types**
Actors:
1. Administrator

Basic Flow:
Only the Administrator has the ability to add new vaccine types in the system. When the Administrator logs into the COVID-19 Vaccine Booking System, they can navigate to the "Add Vaccine Types" page that lists the currently present vaccine types in the system and has a button for adding a new vaccine type. When the user clicks this button, they are asked to provide the name of the vaccine type and details of the vaccine.

Use Case 5: **View All Users**

Actors:
   2. Administrator

Basic Flow:

The Administrator has an overall view and is able to view details of all users in the system which includes HCPs. When the Administrator logs into the COVID-19 Vaccine Booking System, they can navigate to the "View all Users" page that renders all the users in the system in a table format such that the Administrator can filter the users by the type of account if desired.

Use Case 6: **View All Vaccine Recipients**

Actors:
   3. Administrator

Basic Flow:

The Administrator has an overall view and is able to view details of all VRs. When the Administrator logs into the COVID-19 Vaccine Booking System, they can navigate to the "View all Vaccine Recipients" page that lists the VRs in a table form with their details such as username, first name, last name, date of birth, gender, etc.

Use Case 7: **Filter by Type of Vaccine Received**

Actors:
   4. Administrator

Basic Flow:

When the Administrator is on the "View all Vaccine Recipients" page of the COVID-19 Vaccine Booking System, the final column of the table records the type of vaccine that each VR received. The Administrator can filter by this column so that they can create relevant reports.

Use Case 8: **View All Time-Slots**

Actors:
   5. Administrator

Basic Flow:

The Administrator has an overall view and is able to view details of all time-slots in the system. When the Administrator logs into the COVID-19 Vaccine Booking System, they can navigate to the "View All Time-Slots" page that lists the time-slots. The Administrator can search for time-slots based on vacancy, start time, end time, duration, HCP and VR (which is empty if the time-slot is not booked yet).

Use Case 9: **Determine Eligibility**

Actors:
   1. Vaccine Recipient

Basic Flow:

A Vaccine Recipient who just created an account on the system, before booking for a vaccine time slot, they need to complete a questionnaire to determine whether the individual is eligible for the chosen vaccine(s). If the Vaccine Recipient is deemed eligible, they will be directed to the 'Search for Time-Slot' page.

Use Case 10: **Search for Time-Slot**

Actors:

    1.   Vaccine Recipient

Basic Flow:

A Vaccine Recipient who just completed their eligibility questionnaire, then heads to the 'Book an Appointment' page and searches for a suitable time-slot using one of the search options. The recipient *may* select the time-slot if a suitable appointment is found.

Use Case 11: **Search by Area**

Actors:

    1.   Vaccine Recipient

Basic Flow

A Vaccine Recipient who just completed their eligibility questionnaire, then heads to the 'Book an Appointment' page and searches for a suitable time-slot via 'Search by Area' to find an appointment at the nearest HCP in his/her area. The recipient *may* select the time-slot if a suitable appointment is found.

Use Case 12: **Search by Health Care Provider**

Actors:

    2.   Vaccine Recipient

Basic Flow:

A Vaccine Recipient who just completed their eligibility questionnaire, then heads to the 'Book an Appointment' page and searches for a suitable time-slot via 'Search by Health Care Provider' to find an appointment at their preferred HCP. The recipient *may* select the time-slot if a suitable appointment is found.

Use Case 13: **Book a Time-Slot**

Actors:

    1.   Vaccine Recipient

Basic Flow:

After finding a suitable Time-Slot for a vaccination appointment and selecting it, the user is then sent to a confirmation page that lists their booking details.

Use Case 14: **Add Time Slot**

Actors:

    1.   Health Care Provider

Basic Flow

The HCP receives a list of times available for vaccinating patients. They log into the portal and navigate to the Manage Time Slots page. The HCP can then select a day and time which adds a time slot on the timetable.

Use Case 15: **Customize Time Slot**

<u>Actors</u>:

1. Health Care Provider

<u>Basic Flow</u>:

The HCP receives a list of times available for vaccinating patients. They log into the portal and navigate to the Manage Time Slots page. The HCP can select a day and time which adds a time slot on the timetable. The HCP can customize the time-slot duration (e.g. 30 minutes).

Use Case 16: **Record a Completed Vaccination**

<u>Actors</u>:

1. Health Care Provider

<u>Basic Flow</u>:

After the VR receives their vaccination, the HCP navigates to the 'Record a Completed Vaccination' page and records the completed vaccination, producing a Vaccination Certificate for the VR.

Use Case 17: **Access Vaccination Certificate**

<u>Actors</u>:

3. Vaccine Recipient

<u>Basic Flow</u>

After the HCP has recorded a completed vaccination, the VR who received the vaccination is able to access and view their vaccination certificate which shows proof of vaccination.

4. Domain Model

4.1 Domain Model Description

Based on the specifications provided for the COVID-19 Vaccine Booking and Management system, the system entities, attributes, and business rules can be summarised as:

- There is a single **Administrator**.
- The Administrator has the ability to *create (none to) many* **Accounts** (for both vaccine recipients and health care providers).
- The Administrator has the ability to *add (none to) many* **VaccineTypes**.
- There are currently two VaccineTypes: <u>ASTRAZENECA</u> and <u>PFIZER.</u>
- The Administrator has access to *view all* Accounts (for both vaccine recipients and health care providers) available in the system.
- The Administrator has access to *view all* **TimeSlots** available in the system.
- **VaccineRecipients** are created in the system with <u>biographical information</u>, including <u>date of birth</u>.
- VaccineRecipients can *search and book for (none to) many* available TimeSlots.
- Before being able to *receive any* **VaccineShots**, VaccineRecipients must answer a short **Questionnaire** to determine eligibility (<u>age</u> and <u>underlying health factors</u>).
- **HealthCareProviders** are created in the system with details including <u>name</u>, <u>postcode</u>, and **HealthCareProviderType**.
- HealthCareProviders can *add (none to) many* TimeSlots in the system with customizable <u>durations</u>.
- HealthCareProviders can *create (none) to many* **VaccineCertificates** to show proof of vaccination once a vaccine is *administered*.
- A VaccineRecipient should be able to *access* a VaccinationCertificate to show proof of vaccination.

Entities have been bolded; <u>attributes</u> have been underlined; and important *associations* have been italicized.

4.2 Domain Model Diagram

COVID-19 Vaccine Booking System

VaccineType `<<enum>>`
- ASTRAZENECA
- PFIZER

TimeSlot
- id
- date
- time
- duration
- location
- vaccineRecipient

HealthCareProviderType `<<enum>>`
- CLINIC
- HOSPITAL
- GP
- POPUP

Account
- id
- username
- password

VaccineShot
- dosagesRequired
- price
- company

Administrator
- username
- password

Questionnaire
- eligibilityQuestions
- result
- dateTaken

VaccineCertificate
- vaccineRecipient
- vaccineType
- dateIssued

HealthCareProvider
- name
- postcode
- organisationID

VaccineRecipient
- firstName
- lastName
- address
- DOB
- gender
- governmentID
- medicalHistory
- phoneNumber
- emailAddress
- vaccinationStatus
- vaccineTypeReceived

Relationships shown:
- is of
- adds
- views
- is of
- creates/views
- uses
- books/searches
- provides
- creates
- administers
- creates/uses
- accesses
- answers
- receives