

**NANYANG
TECHNOLOGICAL
UNIVERSITY**
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**SC2006 Final SRS
AY22/23 Sem 1**



CareUP

Deadline: 13th November, Sunday

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1. Introduction

1.1. Purpose

CareUp, is a one-stop web application that empowers parents of young children aged between 18 months and 7 years old to make more informed decisions when choosing a childcare centre. CareUp provides various services for both parents and childcare administrators. These include being able to search for childcare centres by name or location, applying directly to childcare centres using the portal, as well as making ratings and reviews for other parents to make more informed choices on potential childcare centres they would like to apply to. Other functions include being able to schedule visits and taking an evaluation quiz to assess their child's psychosocial state.

This document presents a **detailed description of the web-application, CareUp**. It will explain the purpose and features of the application, its implementation, interfaces as well as the constraints under which it must operate.

1.2. Stakeholders and Users

CareUp has been developed for the following stakeholders:

- (1) Parents of young children aged 18 months to 7 years old

CareUp aims to simplify the childcare search and application process by providing them with a one-stop integrated solution for their childcare needs.

- (2) Administrators managing childcare centre accounts

CareUp provides childcare centres to market themselves to potential customers on the CareUp portal.

- (3) Project Developers

CareUp aims to build a clean and relational database storing parent and childcare admin information.

1.3. Definitions/Acronyms/Abbreviations

The following tables lists frequently used terms in this report and their corresponding definitions.

TERM	DEFINITION
User / Parent	A user of the website that is logged in / a registered user
Guest	A user of the website that is not logged in or is not a registered user of the website
Childcare Admin / CentreAdmin	A user of the website that has an authenticated centre account
System	Refers to the web application
Childcare Centre	A centre built specifically to provide half-day and full-day care programmes for children under the age of 7
Search	A feature that allows a user or guest to look for a particular childcare centre and view its details
Filter	A feature that allows a user or guest to include or exclude information used in the search for the childcare centre
Region	Refers to the various zones in Singapore such as North, North-East, Central, West and East
Logo	A symbol or small design adopted by the childcare centres to differentiate among themselves
Education Level	The education levels offered by the childcare centres based on the child's age. Note: A single childcare centre may offer one or more of the different levels mentioned below <ul style="list-style-type: none">- Infant (2-18 months)- Playgroup (18 months - 2 years)- Pre-Nursery (3 years old)- Nursery (4 years old)- Kindergarten 1 (5 years old)- Kindergarten 2 (6 years old)

	<ul style="list-style-type: none"> - Student Care (above 7 years old)
Review	A feature to allow users to give feedback or comments on a particular child care centre their child is enrolled in
Rating	A feature to allow users to rank a particular childcare centre based on a comparative assessment of its offered quality, performance and meeting of expectations
Profile	A page that contains the user's personal information
School Representative	An admin representative of the school who deals with the childcare centre applications
Childcare services	<p>There are several types of care services offered by the childcare centres. Note: A single childcare centre may offer one or more of the services mentioned below</p> <ul style="list-style-type: none"> - Before/After School Care - Emergency Care - Extended Session 1 or 2 - FEP (AM/PM) - Flexi Care 1 - Flexi Care 1 (AM/PM) - Flexi Care 2 - Flexi Care 3 - Full day - Half-Day (AM/PM) - Session 1, 2, 3 or 4
Second languages	An additional language offered by a childcare centre other than the mandatory English Language. These languages may include Chinese, Malay, Tamil and other non-official languages like French, German etc.
Food	<p>The type of food that a childcare centre offers</p> <ul style="list-style-type: none"> - Halal food with / or without beef - No Pork No Lard with or without beef - Vegetarian

Childcare Fee	The monthly payment needed for the particular childcare centre based on the type of service and education levels chosen (excludes incidental cost)
Incidental cost	Refers to one-time admin payments to be made to the childcare centre such as registration fees, uniform fees, bedding and some optional requirements such as insurance etc.
Citizenship	The user can be a Singapore citizen, PR or a foreigner
Childcare Day-Visit Schedule	An appointment booked by parents through the web application, to visit their child at the enrolled childcare centre
Evaluation Quiz	A type of questionnaire with various questions and choice of answers for each question

1.4. References

- Early Childhood Development Agency. "Listing of Centre Services." *Data.gov.sg*, 29 Mar. 2019, data.gov.sg/dataset/listing-of-centre-services. Accessed 6 Nov. 2022.
- Early Childhood Development Agency. "Listing of Centres." *Data.gov.sg*, 29 Mar. 2019, data.gov.sg/dataset/listing-of-centres. Accessed 6 Nov. 2022.
- Early Childhood Development Agency. "Listing of Centres Incidental Charges." *Data.gov.sg*, 29 Mar. 2019, data.gov.sg/dataset/listing-of-centres-incidental-charges. Accessed 6 Nov. 2022.
- "IEEE Guide for Software Requirements Specifications." IEEE Std 830-1984, 1 Feb. 1984, pp. 1–26, ieeexplore.ieee.org/document/278253, 10.1109/IEEESTD.1984.119205.

2. Overall Description

2.1. Product Perspective

CareUp is a newly developed, self-contained, web-application. Its main responsibilities are to provide users with the ability to carry out a simple search, apply directly to childcare centres, leave reviews and ratings, book visits and take an evaluation quiz.

The usability of this application allows parents and childcare centres to connect in a simple way.

2.2. Product Functions

CareUp provides the following functions:

1. **Registration System:** Users can create an account with CareUp. Creating an account and being a registered user allows users to gain access to extended functionality, such as making applications and leaving ratings and reviews, that are otherwise unavailable to guests or unregistered users.
2. **Sign In System:** Allows registered users to sign in to their accounts to access extended functionality.
3. **Reset Password:** Allows for registered users to update their password (using an OTP) when they forget it.
4. **Search:** Users can search for and retrieve information on childcare centres by searching for childcare centres by name, location etc. Users can also make use of the filter function to find childcare centres that meet their needs by applying filters on parameters such as price range, location etc. Users may also choose to sort the list by alphabetical order or by price.
5. **Application:** Registered users can apply directly to childcare centres through the CareUp portal. This reduces their need to go to the separate childcare services' websites.
6. **Review and Ratings:** Registered users can leave reviews and ratings on the centre their child is enrolled to based on cleanliness, quality of teaching, well-being etc. Each centre will have a rating based on a 5-point scale.
7. **Schedule Visits:** Registered users can schedule physical appointments with childcare centres.
8. **Evaluation Quiz:** Registered users can take an evaluation quiz to evaluate their child's psychosocial needs. The quiz assesses the child on the following metrics: anxiety, attention, conduct and mental health. Qualitative insights are also provided to the parent and to the respective childcare admins for them to take necessary actions.

2.3. User Classes and Characteristics

We have two classes of users - **parents** and the **childcare centre administrators**.

Our targeted group of parents are likely to be young millennials who are tech savvy and familiar with using web applications. They are very likely to do a lot of research and want to gather as many resources as they can in order to give their children the best pre-school education they could possibly provide.

We have further identified childcare administrators as a second user class. Childcare administrators will be able to put up their childcare centre's information for parents to see. Childcare admins are assumed to actively want to market their childcare centres to parents, and hence make use of the CareUP portal to maximise their reach.

2.4. Operating Environment

The application can run on both Windows OS and MacOS.

2.5. Design & Implementation Constraints

The Personal Data Protection Act (PDPA) sets out the law on data protection in Singapore. The PDPA establishes a data protection law that comprises various rules governing the collection, use, disclosure and care of personal data. Owing to Personal Data Protection Act 2012, the application will require government authority approval for the collection and dissemination of personal details from parents when they register for an account or make a direct application to the childcare centres.

Depending on the size and size of our database, we foresee scalability as an issue in the long run.

2.6. Assumptions & Dependencies

The system assumes that users of CareUp have a stable internet connection.

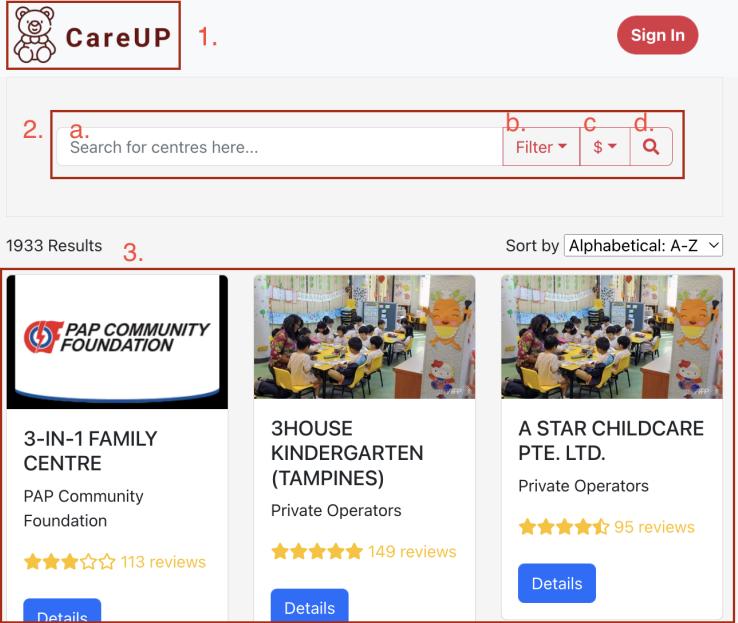
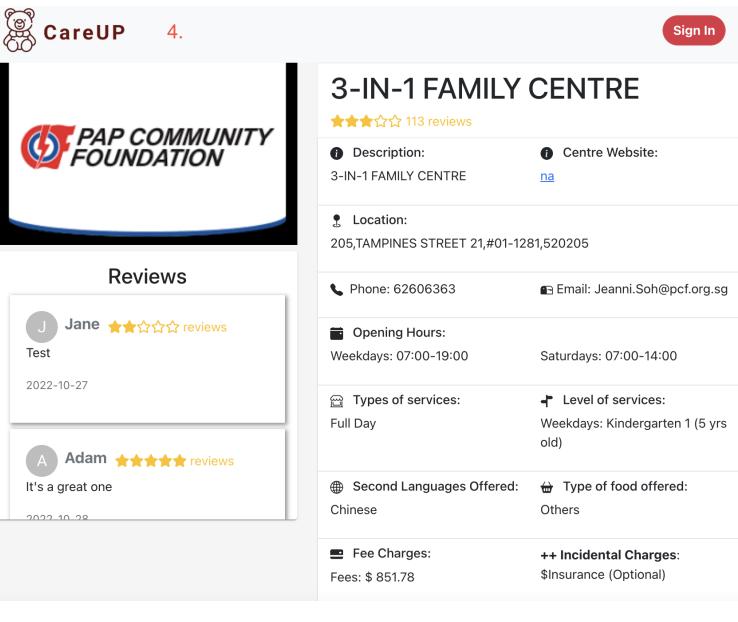
The following are some assumptions we have made in the design of our system:

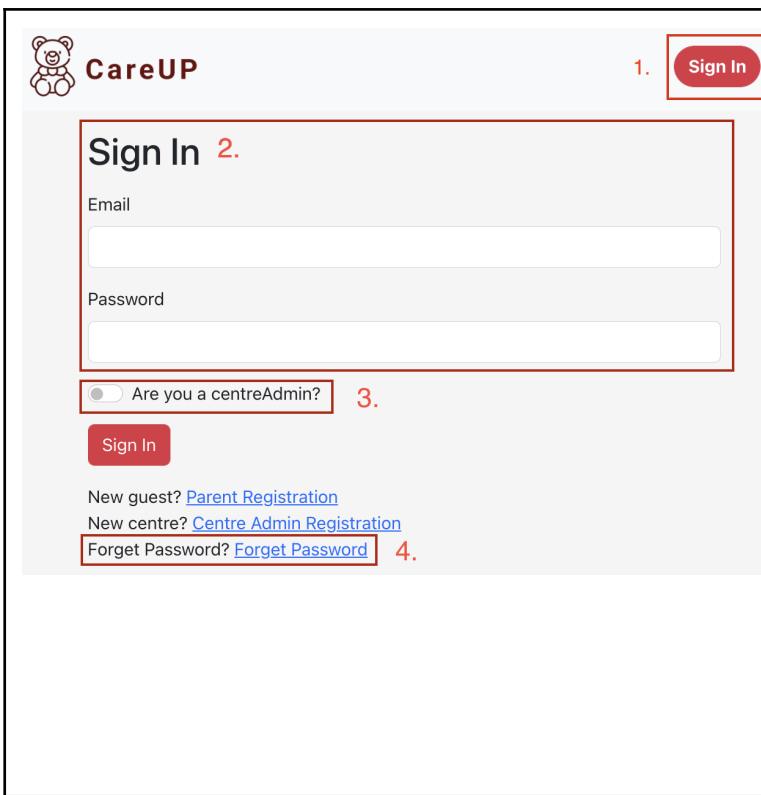
- 1) All authenticated users that can leave ratings and reviews for all childcare centres are assumed to have their children registered (or previously registered) there.
- 2) Parents are able to submit multiple applications for the same child, even after they have been accepted into a centre.

- 3) There is only one centre admin per childcare centre with access to the CareUp account.

3. External Interfaces

3.1. User Interface

Interface	Explanation
 <p>The screenshot shows the CareUP website's home page. At the top left is the CareUP logo with a teddy bear icon. To its right is a red "Sign In" button. Below the logo is a search bar with the placeholder "Search for centres here...". To the right of the search bar are four filter buttons labeled "Filter", "\$", and "Q". Below the search bar, the text "1933 Results" is displayed. To the right of this is a sorting option "Sort by Alphabetical: A-Z". The main content area displays three cards for childcare centres:</p> <ul style="list-style-type: none"> 3-IN-1 FAMILY CENTRE (PAP Community Foundation): 113 reviews 3HOUSE KINDERGARTEN (TAMPINES) (Private Operators): 149 reviews A STAR CHILDCARE PTE. LTD. (Private Operators): 95 reviews <p>Each card includes a "Details" button at the bottom.</p>	<p><u>Home page</u></p> <ol style="list-style-type: none"> Icon on the top left will always redirect users to the home page of our web app. Search bar with filter feature in home page for easy navigation. <ol style="list-style-type: none"> Users can directly type into the search bar to find more information on the childcare centre. Users can filter by region. Users can filter by organisations. Users can filter by price range. Home page contains cards of all childcare centres in Singapore.
 <p>The screenshot shows the CareUP website's centre details page for "3-IN-1 FAMILY CENTRE". At the top left is the CareUP logo. To its right is a red "Sign In" button. The page title is "3-IN-1 FAMILY CENTRE". Below the title is a section for reviews with two entries:</p> <ul style="list-style-type: none"> Jane: ★★★★☆ 113 reviews (Test, 2022-10-27) Adam: ★★★★★ 149 reviews (It's a great one, 2022-10-28) <p>Below the reviews is detailed information about the centre:</p> <ul style="list-style-type: none"> Description: 3-IN-1 FAMILY CENTRE Centre Website: na Location: 205,TAMPINES STREET 21,#01-1281,520205 Phone: 62606363 Email: Jeanni.Soh@pcf.org.sg Opening Hours: Weekdays: 07:00-19:00 Saturdays: 07:00-14:00 Types of services: Full Day Level of services: Weekdays: Kindergarten 1 (5 yrs old) Second Languages Offered: Chinese Type of food offered: Others Fee Charges: Fees: \$ 851.78 Incidental Charges: \$Insurance (Optional) 	<p>3. Home page contains cards of all childcare centres in Singapore.</p> <p>4. Users who have not signed in can only view reviews on the left and centre information as shown on the right. Note that such users are not allowed to submit reviews or submit applications.</p>



CareUP

Sign In 2.

1. **Sign In**

Email
Password

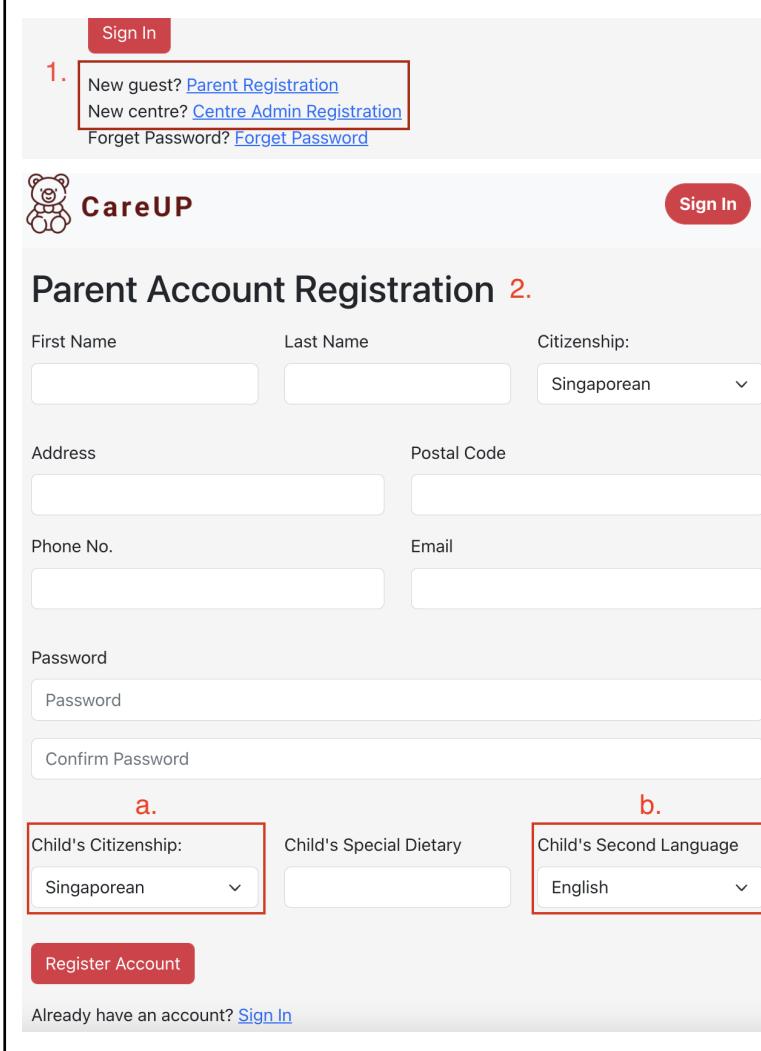
Are you a centreAdmin? 3.

Sign In

New guest? [Parent Registration](#)
New centre? [Centre Admin Registration](#)
Forgot Password? [Forget Password](#) 4.

Sign in page

1. Sign in button available at the top right so that it is noticeable and allows for easy login.
2. A parent can log in with his email and password to access his existing account.
3. Centre admin account can log in with email and password to access their existing account, but have to toggle the centreAdmin toggle
4. The Forget password option is also available. It is secured by OTP verification.



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Parent Account Registration 2.

1. **Sign In**

New guest? [Parent Registration](#)
New centre? [Centre Admin Registration](#)
Forgot Password? [Forget Password](#)

First Name Last Name Citizenship: Singaporean

Address Postal Code

Phone No. Email

Password Confirm Password

a. Child's Citizenship: Singaporean b. Child's Second Language: English

Register Account

Already have an account? [Sign In](#)

Sign up page

1. New users - Parent or Centre Admin can register their accounts.
2. Parents will be led to the Parent Account Registration page where they have to fill in all the necessary details for verification.
 - a. Dropdown feature for Child's Citizenship field.
 - b. Dropdown feature for Child's Second Language field.
 - c. The drop down feature allows users to only select values from the given list and also bring convenience during

<p>Child's Citizenship: 2a.</p> <div style="background-color: #f0f0f0; padding: 5px; border: 1px solid #ccc; border-radius: 5px;"> <input checked="" type="checkbox"/> Singaporean <input type="checkbox"/> Permanent Resident <input type="checkbox"/> Foreigner </div> <p>Child's Second Language2b.</p> <div style="background-color: #f0f0f0; padding: 5px; border: 1px solid #ccc; border-radius: 5px;"> <input checked="" type="checkbox"/> English <input type="checkbox"/> Chinese <input type="checkbox"/> Malay <input type="checkbox"/> Tamil </div>	<p>their applications.</p> <p>3. Centre Admins will be led to the CentreAdmin Account Registration page where they have to fill in all the necessary details for verification.</p>
 CareUP Sign In <h3>CentreAdmin Account Registration</h3> <p>First Name <input type="text"/></p> <p>Last Name <input type="text"/></p> <p>Organisation Code <input type="text"/> Organisation Description <input type="text"/> Service Model <input type="text" value="CC"/></p> <p>Company Email <input type="text"/> Company Phone No. <input type="text"/></p> <p>Headquarter Address <input type="text"/> Headquarter Postal Code <input type="text"/></p> <p>Password <input type="password"/></p> <p>Confirm Password <input type="password"/></p> <p>Register Account</p> <p>Already have an account? Sign In</p>	

CareUP

1. Submitted Applications Quiz Schedule Jane ▾

AAYTOZEE @ HILLVIEW PTE LTD

★★★★★ 134 reviews

Description: AAYTOZEE @ HILLVIEW PTE LTD [Centre Website:](http://www.zee.com.sg)

Location: 2,JALAN DERMAWAN,668947

Phone: 67655522 Email: lawrence.goh@aaytozee.com

Opening Hours: Weekdays: 07:00-19:00 Saturdays: na

Types of services: Emergency Care Level of services: Weekdays: Kindergarten 1 (5 yrs old)

Second Languages Offered: Chinese Type of food offered: No Pork No Lard with No Beef (without Certification from MUIS but from Halal Sources)

Fee Charges: Fees: \$ 100 ++ Incidental Charges: \$Uniforms/PE Attire (Optional)

2.

Apply Now Schedule Visit Review Here

Parent Account

Overview

1. At the top right, there are these buttons for easy navigation that will be explained more later.
2. Inside each card, there may be 2 or 3 buttons that will lead parents to different pages.
 - a. The 'Review Here' button is only available for parents who have a child enrolled in that particular centre.
 - b. This ensures that only valid accounts are giving reviews, leading to more quality and reliable reviews.
 - c. This also helps parents make more informed decisions.

CareUP

Submitted Applications Quiz Schedule Jane ▾

Childcare Application Form

This form is used for the purpose of:

- Submitting basic enrolment details (applicable for all students)
- Submitting Applicant and Spouse Details

1.

Part 1: Child Enrolment Details

Please complete Part 1 to provide the information on the child

Part 2: Applicant and Spouse Details 2.

Please complete Part 2 to provide the information on the applicant and spouse

Applicant Details	Spouse Details
Relationship to Child: --Please choose an option--	*Spouse's details are not required for applications by MSF Foster Parent, Head, Children Home, or if applicant is single/divorced/separated/widowed.*

Parent Account

Application page

Upon clicking 'Apply Now' button inside a card:

1. At the top, the parent needs to first fill in Child Enrolment Details.
2. In the next section, the parent needs to fill up Applicant and Spouse Details.
3. In the third section, Employment and Income details of Applicant and

Part 3: Employment and Income Details of Applicant and Spouse 3.

Please complete Part 3A to provide the employment and income details of both applicant and spouse.

Do you have NOA? Yes No

Do you have NOA? Yes No

Submit 4.

- Spouse needs to be filled up
- Finally, there is a submit button at the bottom of the page. The parent will be redirected to sections of the form that needs attention if there are fields not filled in correctly.



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Submitted Applications Quiz Schedule Jane ▾

1. Rate & Review Centre

Full name

Email

2. Childcare Centre

AAYTOZEE @ HILLVIEW PTE LTD

General Cleanliness 

Quality of Teaching 

Child's Well-being 

Share your feedback

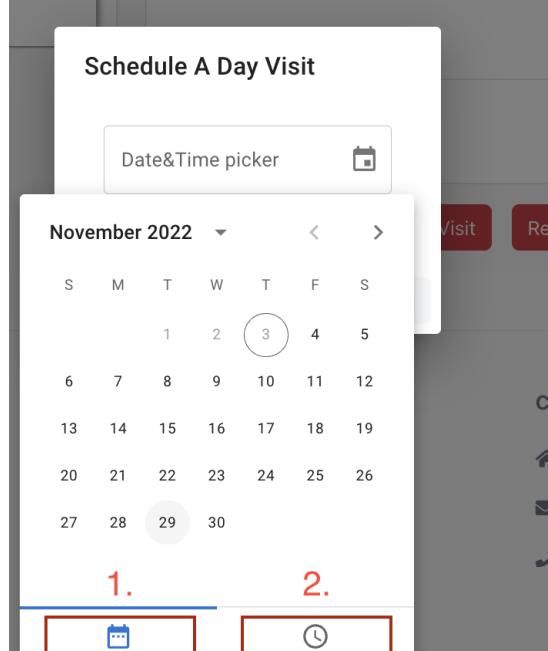
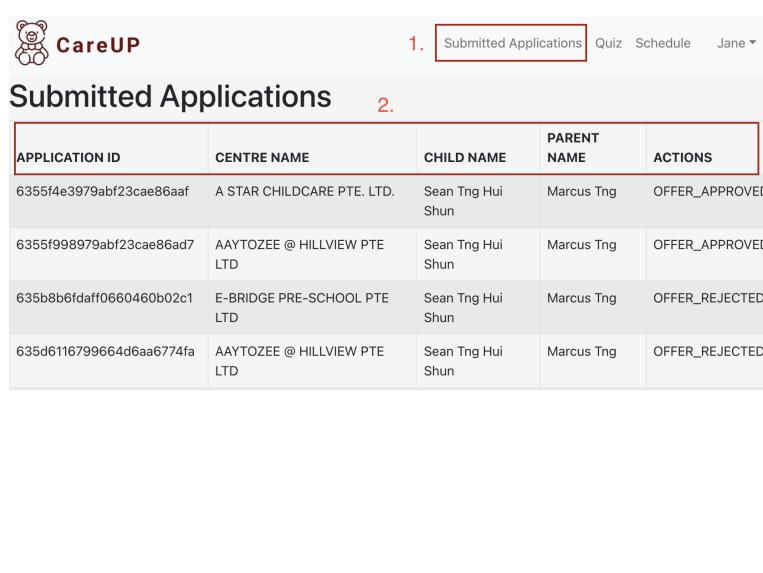
3. Submit

Parent Account

Rating and Reviews page

Upon clicking 'Review Here' button inside a card (Note that only parents who has a child enrolled in the centre can see the button):

- Parents can fill in their full name, email, ratings, and feedback.
- Childcare centre name is auto-filled for convenience.
- Upon clicking the 'Submit' button, parents will be redirected to the home page.

	<p>Parent Account</p> <p>Schedule Visit</p> <p>Upon clicking ‘Schedule Visit’ button inside a card:</p> <ol style="list-style-type: none"> 1. Parents can select the day to visit. 2. Parents can select the time to visit. 3. This will be subjected to approval by the childcare centre. Scheduling is a great way for parents to save time on waiting and queuing. 																									
 <table border="1" data-bbox="159 1021 922 1291"> <thead> <tr> <th>APPLICATION ID</th> <th>CENTRE NAME</th> <th>CHILD NAME</th> <th>PARENT NAME</th> <th>ACTIONS</th> </tr> </thead> <tbody> <tr> <td>6355f4e3979abf23cae86aaf</td> <td>A STAR CHILDCARE PTE. LTD.</td> <td>Sean Tng Hui Shun</td> <td>Marcus Tng</td> <td>OFFER_APPROVED</td> </tr> <tr> <td>6355f998979abf23cae86ad7</td> <td>AAYTOZEE @ HILLVIEW PTE LTD</td> <td>Sean Tng Hui Shun</td> <td>Marcus Tng</td> <td>OFFER_APPROVED</td> </tr> <tr> <td>635b8b6fdaff0660460b02c1</td> <td>E-BRIDGE PRE-SCHOOL PTE LTD</td> <td>Sean Tng Hui Shun</td> <td>Marcus Tng</td> <td>OFFER_REJECTED</td> </tr> <tr> <td>635d616799664d6aa6774fa</td> <td>AAYTOZEE @ HILLVIEW PTE LTD</td> <td>Sean Tng Hui Shun</td> <td>Marcus Tng</td> <td>OFFER_REJECTED</td> </tr> </tbody> </table>	APPLICATION ID	CENTRE NAME	CHILD NAME	PARENT NAME	ACTIONS	6355f4e3979abf23cae86aaf	A STAR CHILDCARE PTE. LTD.	Sean Tng Hui Shun	Marcus Tng	OFFER_APPROVED	6355f998979abf23cae86ad7	AAYTOZEE @ HILLVIEW PTE LTD	Sean Tng Hui Shun	Marcus Tng	OFFER_APPROVED	635b8b6fdaff0660460b02c1	E-BRIDGE PRE-SCHOOL PTE LTD	Sean Tng Hui Shun	Marcus Tng	OFFER_REJECTED	635d616799664d6aa6774fa	AAYTOZEE @ HILLVIEW PTE LTD	Sean Tng Hui Shun	Marcus Tng	OFFER_REJECTED	<p>Parent Account</p> <p>Submitted Application page</p> <ol style="list-style-type: none"> 1. ‘Submitted Applications’ header button contains all submitted applications made by parents. 2. Parents can get a bird’s eye view of all the submitted applications with additional information such as the centre name and actions.
APPLICATION ID	CENTRE NAME	CHILD NAME	PARENT NAME	ACTIONS																						
6355f4e3979abf23cae86aaf	A STAR CHILDCARE PTE. LTD.	Sean Tng Hui Shun	Marcus Tng	OFFER_APPROVED																						
6355f998979abf23cae86ad7	AAYTOZEE @ HILLVIEW PTE LTD	Sean Tng Hui Shun	Marcus Tng	OFFER_APPROVED																						
635b8b6fdaff0660460b02c1	E-BRIDGE PRE-SCHOOL PTE LTD	Sean Tng Hui Shun	Marcus Tng	OFFER_REJECTED																						
635d616799664d6aa6774fa	AAYTOZEE @ HILLVIEW PTE LTD	Sean Tng Hui Shun	Marcus Tng	OFFER_REJECTED																						

The CareUP Quiz interface shows the following steps:

- Submitted Applications** (highlighted in red)
- Test Questions** (highlighted in red)
- Your Results** (highlighted in red)

Pediatric Symptom (PSC) Test

The Pediatric Symptom Checklist (PSC) is a brief questionnaire that helps identify and assess changes in emotional and behavioral problems in children. The PSC covers a broad range of emotional and behavioral problems and is meant to provide an assessment of psychosocial functioning.

Psychosocial problems are **relatively common**, affecting about 12% of children. Such problems often go *unnoticed* by pediatricians, teachers and even parents and can lead to more serious problems in later life. Research shows that earlier detection and treatment can lead to better outcomes.

Complains of aches/pains.

NEVER SOMETIMES OFTEN

Parent Account

Quiz page

- ‘Quiz’ header button contains a Paediatric Symptom (PSC) Test.
- List of Test Questions for parents to complete.
- Upon submission, results will be available.

The CareUP Schedule interface shows the following steps:

- Submitted Applications** (highlighted in red)
- Schedule** (highlighted in red)

Scheduled Centre Visit 2.

CENTRE NAME	DATE&TIME	STATUS	ACTIONS
PCF SPARKLETOTS PRESCHOOL @ BRADDELL HEIGHTS BLK 335 (CC)	October 29, 2022 2:10 AM	SCHEDULE_REJECTED	No Actions Needed 3. CHANGE CANCEL
3HOUSE KINDERGARTEN (TAMPINES)	November 7, 2022 2:10 PM	SCHEDULE_PENDING	 CHANGE CANCEL
AAYTOZEE LEARNING COVE PTE LTD	November 5, 2022 1:05 AM	SCHEDULE_PENDING	 CHANGE CANCEL

Parent Account

Schedule

- ‘Schedule’ header button contains all submitted schedules made by parents.
- Parents are able to have a consolidated page of all their schedules. It contains the centre name, date and time, status, and actions.
- Depending on the status, parents can make appropriate actions such as cancel, change schedule date and time.

CareUP

1. Parent Applications Students Evaluation Result Manage Day-Visit Doris ▾

Search for centres here... Filter \$ ▾

1933 Results Sort by Alphabetical: A-Z ▾

			
3-IN-1 FAMILY CENTRE	3HOUSE KINDERGARTEN (TAMPINES)	A STAR CHILDCARE PTE. LTD. Private Operator	AYATOZEE @ HILLVIEW PTE LTD Private Operator

CentreAdmin Account

Overview

- There are 4 header buttons CentreAdmin has - Parent Applications, Students Evaluation Result, Manage Day-Visit

CareUP

1. Parent Applications Students Evaluation Result Manage Day-Visit PTSean ▾

Submitted Parent Applications 2.

APPLICATION ID	CHILD NAME	PARENT NAME	ACTIONS
6355f4e3979abf23cae86aa	Sean Tng Hui Shun	Marcus Trig	3. OFFER_APPROVED
6363f7abc4efecac5d51470b	Chen Soo Shen	Chen Ming De	APP_REJECTED
6363f8d5c4efecac5d514752	Abdullah Aniq Bin Mohammad Irfan	Nur Fareena Binte Abdul Hakeem	VIEW
6363fa24c4efecac5d51478d	Pravin Anand s/o G. Kumar	Santhil Kumar s/o A. Mohan	VIEW
6363fb74c4efecac5d5147cc	James Smith	James Smith	VIEW 4. OFFER_APPROVED
6363fe5cc4efecac5d5148c0	Test	Test	

Do you receive CPF contributions? Yes No Do

Do you have NOA? Yes No Do

4.

Approve Reject

CentreAdmin Account

Parent Application

- Centre Admins can have a consolidated summary of all the parents applications to their centre in the 'Parent Applications' header tab.
- There are additional information such as Application ID, Child name, Parent name, actions.
- The Action column are what the centre needs to pay attention to.
- 'View' Action allows centres to view, then decide to accept or reject the parent application according to their centre demand and requirements.

CareUP

Parent Applications Students Evaluation Result Manage Day-Visit PTSean ▾

1.

Students Evaluation Results

EVALUATION ID	CHILD NAME	PARENT NAME	ACTIONS
635dd8a63d76dfce37a4c06a	Sean Tng Hui Shun	Jane Foster	3. VIEW

CentreAdmin Account

Students Evaluation Result

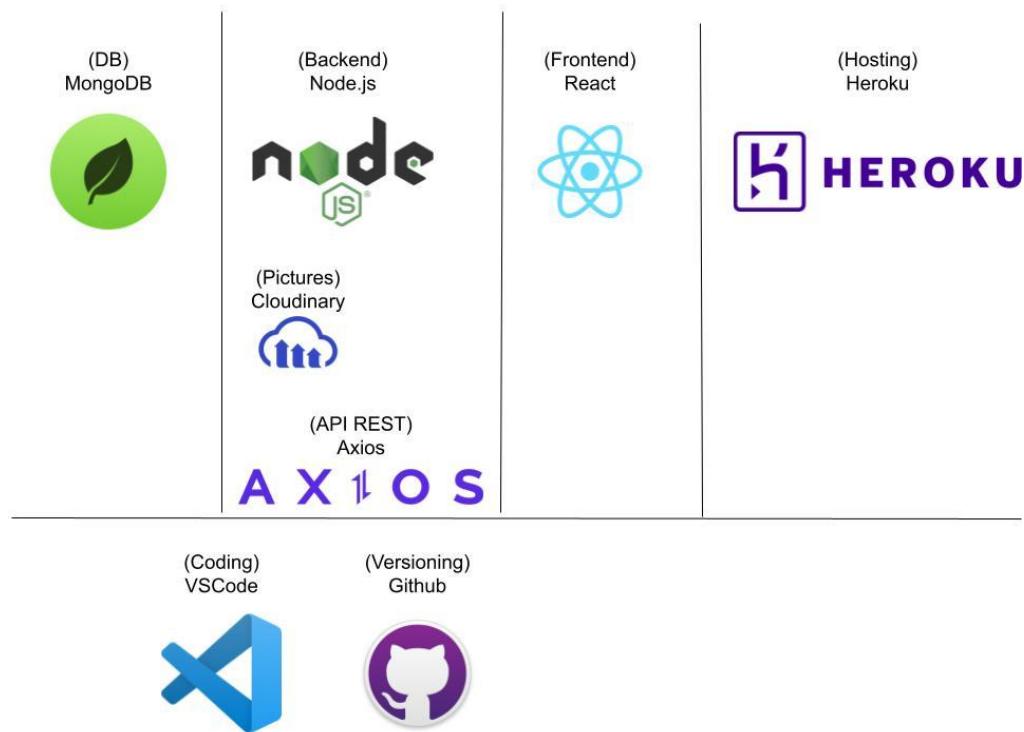
- Centre Admins can have a consolidated summary of all the child's results from the

 CareUP Students Eva EVALUATION ID 635dd8a63d76dfce37a4c06 <div style="background-color: #f0f0f0; padding: 10px;"> <p>Evaluation Results</p> <p>4.</p> <p>Overall Score: 31 / 62 Anxiety/Depression Score: 5 / 10 Attention Problem Score: 5 / 10 Conduct Problem Score: 7 / 14 General Child Mental Health Score: 14 / 28</p> <p>Evaluation Results: Your results indicate that your child is showing many signs of emotional, attentional or behavioral difficulties.</p> <p>Your child has scored 5 or higher on the Anxiety/Depression subscale, you may wish to speak with your pediatrician about possible problems with anxiety or depression. Children with high scores on this subscale might withdraw from social situations or mention unexplained physical symptoms</p> <p>Your child has scored lower than 7 on the Attention Problem subscale, indicating that this is not a vital concern.</p> <p>Lastly, your child scored 7 or higher on the Conduct Problem subscale. You may wish to speak with your pediatrician about possible problems with disruptive behavior. Sometimes children with high scores on this subscale hurt others or get in trouble with others. As preschoolers, they often display an unusual fearlessness or insensitivity to things that make most children a little bit worried or nervous, like the dark, heights or dogs.</p> <p>CAREUP WEBAPP The Fantastic5 team aim web application — CareUp as an integrated solution for parents of young children 18 months to 7 years old informed decision when childcare centre.</p> </div> <p style="text-align: right;">CLOSE</p>	Paediatric Symptom (PSC) Test under the 'Students Evaluation Result' header tab. 2. There will be additional information provided. 3. View button for easy access to each individual student's results. 4. Example of screen shown on clicking 'View' button.																														
 CareUP Parent Applications Students Evaluation Result Manage Day-Visit PTSean <p>1.</p> <p>Manage Centre Visits 2.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>CENTRE NAME</th> <th>CENTRE CODE</th> <th>EMAIL</th> <th>DATE&TIME</th> <th>STATUS</th> <th>ACTIONS</th> </tr> </thead> <tbody> <tr> <td>Agape Little Uni. @ Thomson Pte Ltd</td> <td>PT8735</td> <td>JohnSmith214@gmail.com</td> <td>November 9, 2022 10:45 AM</td> <td>SCHEDULE_CANCELLED</td> <td>3. No Actions Needed CANCEL</td> </tr> <tr> <td>The Kids' Inn Joo Chiat Pte Ltd</td> <td>PT8801</td> <td>NurFareena42@gmail.com</td> <td>November 5, 2022 3:00 PM</td> <td>SCHEDULE_APPROVED</td> <td>No Actions Needed CANCEL</td> </tr> <tr> <td>A STAR CHILDCARE PTE. LTD.</td> <td>PT9344</td> <td>MingDe94@gmail.com</td> <td>November 6, 2022 8:30 AM</td> <td>SCHEDULE_REJECTED</td> <td>No Actions Needed CANCEL</td> </tr> <tr> <td>Children's Vineyard Kindergarten</td> <td>PT9630</td> <td>SanthilK412@gmail.com</td> <td>November 8, 2022 1:00 PM</td> <td>SCHEDULE_APPROVED</td> <td>No Actions Needed CANCEL</td> </tr> </tbody> </table>	CENTRE NAME	CENTRE CODE	EMAIL	DATE&TIME	STATUS	ACTIONS	Agape Little Uni. @ Thomson Pte Ltd	PT8735	JohnSmith214@gmail.com	November 9, 2022 10:45 AM	SCHEDULE_CANCELLED	3. No Actions Needed CANCEL	The Kids' Inn Joo Chiat Pte Ltd	PT8801	NurFareena42@gmail.com	November 5, 2022 3:00 PM	SCHEDULE_APPROVED	No Actions Needed CANCEL	A STAR CHILDCARE PTE. LTD.	PT9344	MingDe94@gmail.com	November 6, 2022 8:30 AM	SCHEDULE_REJECTED	No Actions Needed CANCEL	Children's Vineyard Kindergarten	PT9630	SanthilK412@gmail.com	November 8, 2022 1:00 PM	SCHEDULE_APPROVED	No Actions Needed CANCEL	<u>CentreAdmin Account</u> <u>Manage Day Visit</u> 1. Centre Admins can have a consolidated summary of all appointments under the 'Manage Day-visit' header tab. 2. Additional information can be found here. 3. Actions include approve, reject, cancel or no actions needed.
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3.2. Hardware Interface

For the proper functioning of our web application, all server-side components must execute on server-class computers. All client-side components must execute on workstation-class and personal-class computers.

3.3. Software Interface



We used a combination of technologies to create our web app. React.js framework was used for the frontend client to create interactive UIs. The frontend will interact with the backend which is built using Node.js with Express framework to facilitate communication between the application's components. We also used Cloudinary to manage our images, and Axios was used to make sending asynchronous HTTP requests to REST endpoints easier. We used MongoDB Atlas for our database. Lastly, we hosted the web application on Heroku.

3.4. Communications Interface

REST constraints are met with a client-server architecture made up of clients, servers, and resources, with requests managed through Hypertext Transfer Protocol (HTTP).

HTTPS Communication (Web Application to Server API)

- HTTP POST function was used in many of the routes. For instance, during parent or centreadmin registration of an account
- HTTP GET function was used to retrieve all information and metadata of all the childcare centre from centre collection database

MongoDB Database Server Connection

- Mongoose will open an active DB connection to the collections
- Using the routes created and defined in the backend folder, we are able to perform Create, Read, Update, Delete (CRUD) operation via HTTP route
- Access the database via MongoDB Atlas to debug web app

4. Specific (Functional) Requirements

4.1. User Account Registration

- 4.1.1. The system shall display 2 links for parents and admin to sign up individually
- 4.1.1.1. If parent link is selected, the system will direct the guest to the sign up page for parents
 - 4.1.1.2. If centre admin link is selected, the system will direct the guest to the sign up page for Admins
- 4.1.2. The system shall request the following account information from parents
- 4.1.2.1. The parent must fill in their first name
 - 4.1.2.2. The parent must fill in their last name
 - 4.1.2.3. The parent must fill in their citizenship
 - 4.1.2.4. The parent must enter a valid personal email
 - 4.1.2.4.1. The system must check if the email has already been registered. If so, display an error message
 - 4.1.2.4.2. The system must check if the value entered in the email field resonates with the email format
 - 4.1.2.5. The parent must enter a valid Singapore address.
 - 4.1.2.6. The parent must enter a valid Singapore postal code
 - 4.1.2.6.1. The system must check if the postal code is 6 digits
 - 4.1.2.7. The parent must enter a valid Singapore phone number
 - 4.1.2.7.1. The system must check if the value entered in the phone number field resonates with the Singapore phone number format
 - 4.1.2.8. The parent must input a password with 1 uppercase, 1 lowercase, 1 number and at least 8 characters
 - 4.1.2.8.1. The system must check if the value entered in the password field meets the specific password

requirement. Otherwise, display an error message to suggest the missing requirements

- 4.1.2.9. The parent shall re-enter their password to confirm it
 - 4.1.2.9.1. The system must detect if the value of the confirm password field is the same as the password field. Otherwise, display an error message to prompt the parent to re-enter
 - 4.1.2.10. The parent shall indicate the citizenship of their child's citizenship
 - 4.1.2.11. The parent shall indicate if their child has any special dietary restrictions
 - 4.1.2.12. The parent shall indicate their preferred choice of a second language for their child to take up
 - 4.1.2.13. The parent shall click on submit button to confirm the registration of the account
- 4.1.3. The system shall request the following account information from centre admin
- 4.1.3.1. The centre admin must fill in their first name
 - 4.1.3.2. The centre admin must fill in their last name
 - 4.1.3.3. The centre admin must fill in their full centre name
 - 4.1.3.4. The centre admin must fill in their organisation code
 - 4.1.3.5. The centre admin must fill in their organisation description
 - 4.1.3.6. The centre admin must fill in their service model
 - 4.1.3.7. The centre admin must fill in a company email for point-of-contact
 - 4.1.3.7.1. The system must check if the email has already been registered. If so, display an error message
 - 4.1.3.8. The centre admin must fill in a company phone number for point-of-contact
 - 4.1.3.8.1. The system must check if the value entered in the phone number field resonates with the Singapore phone number format
 - 4.1.3.9. The centre admin must fill in their Singapore headquarters address
 - 4.1.3.9.1. The system must check if the value entered in the address field resonates with the Singapore address format

- 4.1.3.10. The centre admin must fill in their Singapore headquarters postal code
 - 4.1.3.10.1. The system must check if the postal code is 6 digits
- 4.1.3.11. The centre admin must input a password with 1 uppercase, 1 lowercase, 1 number and at least 8 characters
 - 4.1.3.11.1. The system must check if the value entered in the password field meets the specific password requirement. Otherwise, display an error message to suggest the missing requirements
- 4.1.3.12. The centre admin shall re-enter their password to confirm it
 - 4.1.3.12.1. The system must detect if the value of the confirm password field is the same as the password field. Otherwise, display an error message to prompt the user to re-enter
- 4.1.3.13. The centre admin shall click on ‘register account’ button to confirm the registration of account

4.2. Sign In

- 4.2.1. The guest shall be prompted to select either Admin/Parent in the radio button form
 - 4.2.1.1. The system shall perform sign-in to parent page if parent is selected
 - 4.2.1.2. The system shall perform sign-in to admin page if admin is selected
- 4.2.2. The guest shall be prompted to log in with their email and password
 - 4.2.2.1. The system shall display an error message “Invalid email password combo” if email is not registered
- 4.2.3. The user shall be able to request for a new password when the old one is forgotten
 - 4.2.3.1. The user must input the email address they used for registering
 - 4.2.3.2. The user must request for an OTP after inputting their email address
 - 4.2.3.3. The user must retrieve the OTP from their email and input it into the OTP field
 - 4.2.3.3.1. The system must check if the OTP field value matches the generated OTP. Otherwise display an error message to inform user that OTP is invalid

- 4.2.3.4. The user must input a password with 1 uppercase, 1 lowercase, 1 number and at least 8 characters
 - 4.2.3.4.1. The system must check if the value entered in the password field meets the specific password requirement. Otherwise, display an error message to suggest the missing requirements
 - 4.2.3.5. The user shall re-enter their password to confirm it
 - 4.2.3.5.1. The system must detect if the value of the confirm password field is the same as the password field. Otherwise, display an error message to prompt the user to re-enter
 - 4.2.3.6. The user shall click on update button to confirm the password reset
- 4.2.4. The system shall remain accessible regardless of whether user has an account
 - 4.2.4.1. The customer general homepage shall show up if the guest accesses the web page without logging in
 - 4.2.4.1.1. A guest shall only be able to search, filter and view detailed information about the centres in the webpage

4.3. Childcare Search

- 4.3.1. The system will have dedicated search bar to search for childcare centres
 - 4.3.1.1. The user must be able to search for a childcare by inputting the childcare centre's names
 - 4.3.1.1.1. The system must check if there are matching search results
 - 4.3.1.1.1.1. The system must be able to display a list of relevant search hits when there are search results returned
 - 4.3.1.1.1.1.1. If there are multiple search hits from the same centre provider, all would be displayed
 - 4.3.1.1.1.2. The system will display "No centre found" message when no search results are found
- 4.3.2. The user must be able to filter the search using the search filter
 - 4.3.2.1. The user must be able to filter by the childcare centre's organisation

- 4.3.2.1.1. The system must return the filtered childcare centre that contains the specified organisation. Otherwise, the system will display “No centre found”
- 4.3.2.2. The user must be able to filter by the price range of the childcare centre’s fees
 - 4.3.2.2.1. The system must return the filtered childcare centre that contains the specified range of childcare centre’s fees. Otherwise, the system will display “No centre found”
- 4.3.2.3. The user must be able to filter by the different regions in Singapore
 - 4.3.2.3.1. The system must return the filtered childcare centre that belongs to the specified region. Otherwise, the system will display “No centre found”
- 4.3.2.4. The user must be able to select multiple filter at the same time
 - 4.3.2.4.1. The system must return the filtered childcare centre that contains all the selected filters. Otherwise, the system will display “No centre found”
- 4.3.3. The user must be able to sort the childcare centres in alphabetical order
 - 4.3.3.1. The user must be able to sort the childcare centres from A-Z
 - 4.3.3.2. The user must be able to sort the childcare centres from Z-A
- 4.3.4. The user must be able to sort the childcare centres in terms of price range of their fees
 - 4.3.4.1. The user must be able to sort the childcare centre’s fees from low to high price
 - 4.3.4.2. The user must be able to sort the childcare centre’s fees from high to low price
- 4.3.5. The user must be able to sort the childcare centres in terms of ratings of the childcare centre
 - 4.3.5.1. The user must be able to sort the childcare centre’s ratings from high to low

4.3.6. The user must be able to select the desired childcare centre from the results of the search list to view detailed childcare centre information

4.4. Childcare Centre's Information

4.4.1. The system must display the details of the childcare centre information

4.4.1.1. The childcare centre's information displayed must consist of a 500px by 500px official logo

4.4.1.2. The childcare centre's information displayed must consist of photos of the centre

4.4.1.3. The childcare centre's information displayed must consist of the centre's address

4.4.1.4. The childcare centre's information displayed must consist of the centre's contact number

4.4.1.5. The childcare centre's information displayed must consist of the centre's email address

4.4.1.6. The childcare centre's information displayed must have a clickable link that directs the user to the centre's website

4.4.1.6.1. The system will put an "n.a" link if centre's website link is unavailable

4.4.1.7. The childcare centre's information displayed must consist of the centre's operating hours on all days

4.4.1.8. The childcare centre's information displayed must consist of the level of services offered by the centre

4.4.1.9. The childcare centre's information displayed must consist of the type of education levels offered by the centre

4.4.1.10. The childcare centre's information displayed must consist of the second languages offered by the centre

4.4.1.11. The childcare centre's information displayed must consist of the type of food offered by the centre

4.4.1.12. The childcare centre's information displayed must consist of the centre's fees and the incidental cost

4.4.1.13. The childcare centre's information displayed must consist of the centre's average rating

4.4.1.14. The childcare centre's information displayed must display all the reviews and ratings the user have reviewed on the centre

- 4.4.1.14.1. Review's information displayed must consist of the first name of the user
 - 4.4.1.14.2. Review's information displayed must consist of the ratings rated by the user
 - 4.4.1.14.3. Review's information displayed must consist of the comments given by the user
 - 4.4.1.14.4. Review's information displayed must consist of the date of the review
- 4.4.2. The user must be able to give review and ratings to the centre
- 4.4.2.1. The system will display the review button that redirects them to the centre review page when clicked on (Further explained in 4.5 - Childcare Rating & Review)
 - 4.4.2.1.1. The user must be logged in as parents. Otherwise, the button shall not be made available to the user
 - 4.4.2.1.2. The user's children must be enrolled into the centre. Otherwise, the button shall not be made available to the user
- 4.4.3. The user must be able to apply for enrolment to the centre
- 4.4.3.1. The system will display the apply button that redirects them to the centre application page when clicked on (Further explained in 4.6 - Childcare Application)
 - 4.4.3.1.1. The user must be logged in as parents. Otherwise, the button shall not be made available to the user
 - 4.4.3.1.2. The user's child must not be enrolled in the centre. Otherwise, the button shall not be made available to the user
- 4.4.4. The user must be able to schedule a day-visit to the centre
- 4.4.4.1. The system will display the schedule button that allows the user to schedule their appointment date and time when clicked on (Further explained in 4.7 - Childcare Application)
 - 4.4.4.1.1. The user must be logged in as parents. Otherwise, the button shall not be made available to the user
 - 4.4.4.1.2. The user must not have any existing appointment with the current centre. Otherwise, the button shall not be made available to the user

4.5. Childcare Rating & Review

- 4.5.1. The review thread of each centre is open to the guest and users to view
- 4.5.2. The parent's account must be authenticated to submit ratings and reviews on a specific childcare centres
 - 4.5.2.1. The parent must have previous enrolled application records to the childcare centre in our system
- 4.5.3. The system shall request the following review information from parents
 - 4.5.3.1. The parent must fill in their full name
 - 4.5.3.2. The parent must fill in their email address
 - 4.5.3.3. The system autofills the childcare centre's name
 - 4.5.3.4. The parent must rate on a scale of 1 to 5 in each section (i.e Cleanliness, Quality of Teaching, Well-being)
 - 4.5.3.5. The parent must fill in all the comments/feedback fields in each section of the form
 - 4.5.3.6. The system must check and validate whether all mandatory fields are filled in
 - 4.5.3.7. The parent must be able to submit the form
- 4.5.4. The system must send an acknowledgement to the parent upon submission
 - 4.5.4.1. The system must display an error message when there is an unsuccessful submission
- 4.5.5. The system must update the current ratings of the centre upon a successful submission
- 4.5.6. The system must add the reviews into the current centre's review thread upon a successful submission

4.6. Childcare Application

- 4.6.1. The system shall allow the parents to make enrolment application and view their application result
 - 4.6.1.1. Parents must be able to view their existing applications for all centre
 - 4.6.1.2. Parents must be able to make a new enrolment application for any centre
 - 4.6.1.3. Parents must be able to accept their application's offer for any centre

- 4.6.1.4. Parents must be able to reject their application's offer for any centre
- 4.6.2. The parent's child must not be currently enrolled to the applied centre
 - 4.6.2.1. The parent must not be allowed to apply to the centre
- 4.6.3. The system shall request the following personal particulars from parents
 - 4.6.3.1. The parent must fill in their child's information
 - 4.6.3.1.1. The parent must fill in their child's enrolment date
 - 4.6.3.1.2. The parent must fill in their child's full name
 - 4.6.3.1.3. The parent must fill in their child's date of birth
 - 4.6.3.1.4. The parent must fill in their child's citizenship
 - 4.6.3.1.5. The parent must fill in their child's birth certificate / passport number
 - 4.6.3.1.6. The parent must fill in their child's gender
 - 4.6.3.1.7. The parent must fill in their child's race
 - 4.6.3.1.8. The parent must fill in their child's preferred second language
 - 4.6.3.1.9. The parent must fill in their child's dietary requirements (if any)
 - 4.6.3.2. The parent must fill in their own particulars
 - 4.6.3.2.1. The parent must fill in their relationship to the child
 - 4.6.3.2.2. The parent must fill in their marital status
 - 4.6.3.2.3. The parent must fill in their full name
 - 4.6.3.2.4. The parent must fill in their date of birth
 - 4.6.3.2.5. The parent must fill in their citizenship
 - 4.6.3.2.6. The parent must fill in their NRIC/ passport number
 - 4.6.3.2.7. The parent must fill in a Singapore-based residential address
 - 4.6.3.2.7.1. The system must check if the postal code is 6 digits
 - 4.6.3.2.8. The parent must fill in a valid Singapore phone number

- 4.6.3.2.8.1. The system must check if the value entered in the phone number field resonates with the Singapore phone number format
- 4.6.3.2.9. The parent must fill in a valid email address
 - 4.6.3.2.9.1. The system must check if the value entered in the email field resonates with the email format
- 4.6.3.3. The parent must fill in their spouse's particulars (if applicable)
 - 4.6.3.3.1. The parent must fill in their spouse's full name
 - 4.6.3.3.2. The parent must fill in their spouse's date of birth
 - 4.6.3.3.3. The parent must fill in their spouse's citizenship
 - 4.6.3.3.4. The parent must fill in their spouse's NRIC / passport number
 - 4.6.3.3.5. The parent must fill in their spouse's Singapore-based phone number
 - 4.6.3.3.5.1. The system must check if the value entered in the phone number field resonates with the Singapore phone number format
 - 4.6.3.3.6. The parent must fill in their spouse's valid email address
 - 4.6.3.3.6.1. The system must check if the value entered in the email field resonates with the email format
- 4.6.3.4. The parent must fill in their employment details
 - 4.6.3.4.1. The parent must fill in their employment status
 - 4.6.3.4.2. The parent must fill in their employment commencement date
 - 4.6.3.4.3. The parent must fill in their gross monthly income
- 4.6.3.5. The parent must fill in their spouse's employment details (if applicable)
 - 4.6.3.5.1. The parent must fill in their spouse's employment status
 - 4.6.3.5.2. The parent must fill in their spouse's employment commencement date
 - 4.6.3.5.3. The parent must fill in their spouse's gross monthly income

- 4.6.4. The parent must submit their application after fulfilling all the mandated fields in the application form to confirm their application
- 4.6.5. The system must check if the required field are valid and filled
 - 4.6.5.1. The system must highlights fields that have not been filled or contains invalid entries
- 4.6.6. The system must send the submitted application to the respective centre's admin
 - 4.6.6.1. The parent must not be able to change the application information
- 4.6.7. Parents are able to apply to more than one centre for the same child at any point of time
- 4.6.8. Parents must not be able to accept more than one offers at any point of time

4.7. Childcare Day-Visit Schedule

- 4.7.1. The system shall allow the parents to schedule and manage their appointments
 - 4.7.1.1. Parents must be able to view their existing appointment for all centre
 - 4.7.1.2. Parents must be able to schedule a new appointment for any centre
 - 4.7.1.3. Parents must be able to change their appointment date and time for any centre
 - 4.7.1.4. Parents must be able to cancel their appointment for any centre
- 4.7.2. The system must ensure that each appointment have a status
 - 4.7.2.1. Appointment must be in either pending, confirmed, rejected, cancelled, expired and fulfilled state.
- 4.7.3. The system must ensure that all existing appointment must be up to date
 - 4.7.3.1. The system must update the status of the appointment once the scheduled date and time of the appointment has passed the current date and time
 - 4.7.3.1.1. The system must update the status of a appointment to expired state for all pending appointments
 - 4.7.3.1.2. The system must update the status of a confirmed appointment to fulfilled state for all confirmed appointments

4.7.4. When the parent request to view their schedules

4.7.4.1. The parent must have an existing appointment with any centre

4.7.4.1.1. The system must display all existing appointments if they exist. Otherwise, the system will display a “You currently have 0 scheduled day-visit for any centres!” message

4.7.4.2. The system shall display the following information in a table

4.7.4.2.1. System will display the centre name of the appointment

4.7.4.2.2. System will display the date and time of the appointment

4.7.4.2.3. System will display the status of the appointment

4.7.4.2.4. System will display the actions that can be performed on the appointment

4.7.5. When the parent request to schedule a appointment with a centre

4.7.5.1. The parent must not have any existing appointment with the applied centre

4.7.5.1.1. The parent must not be allowed to schedule an appointment with the centre

4.7.5.2. The system shall request the following schedule information from parents

4.7.5.2.1. The parent must fill in the appointment’s date and time

4.7.5.3. The system must only allow parent to book date up to 1 month in advance

4.7.5.4. The system must only allow parent to book time that is within working hours from 0700 to 1900

4.7.5.5. The parent must be able to submit the request

4.7.5.6. The system must send an acknowledgement to the parent upon submission

4.7.5.6.1. The system must display an error message when there is an unsuccessful submission

4.7.5.6.2. The system must display an success message when there is an successful submission

- 4.7.5.7. The system must send the submitted appointment to the respective centre's admin upon successful submission
- 4.7.6. When the parent request to change the appointment's date and time with a centre
 - 4.7.6.1. The parent must have an existing appointment with the applied centre
 - 4.7.6.1.1. The existing appointment must be in the pending state
 - 4.7.6.2. The system shall request the following schedule information from parents
 - 4.7.6.2.1. The parent must fill in the appointment's date and time
 - 4.7.6.3. The system must only allow parent to book date up to 1 month in advance
 - 4.7.6.4. The system must only allow parent to book time that is within working hours
 - 4.7.6.5. The parent must be able to submit the change request
 - 4.7.6.6. The system must send an acknowledgement to the parent upon submission
 - 4.7.6.6.1. The system must display an error message when there is an unsuccessful submission
 - 4.7.6.6.2. The system must display an success message when there is an successful submission
 - 4.7.6.7. The system must update the existing appointment information to the respective centre's admin upon successful submission
- 4.7.7. When the parent request to cancel an appointment with a centre
 - 4.7.7.1. The parent must have an existing appointment with the applied centre
 - 4.7.7.1.1. The existing appointment must be either in pending or confirmed state
 - 4.7.7.2. The parent must be able to submit the cancel request
 - 4.7.7.3. The system must update the existing appointment information upon request

- 4.7.8. Parents are able to schedule a appointment for more than one centre
- 4.7.9. Parents must not be able to schedule another new appointment with the same centre that they have scheduled before

4.8. Childcare Quiz Evaluation

- 4.8.1. The system shall allow the parents to take a quiz that will evaluate on their child's psychosocial functioning
- 4.8.2. The parent's child must be currently enrolled to at most 1 childcare centre
- 4.8.3. When the parent request to take the quiz
 - 4.8.3.1. The system will display 31 questions that requires the parent's input
 - 4.8.3.1.1. The system will display 3 radio button options
 - 4.8.3.1.1.1. The system will display "NEVER" option
 - 4.8.3.1.1.2. The system will display "SOMETIMES" option
 - 4.8.3.1.1.3. The system will display "OFTEN" option
 - 4.8.3.1.2. The parent must be able to submit the quiz
 - 4.8.3.1.3. The parent must be able to view the quiz result upon submission
 - 4.8.3.1.3.1. The system must display the result of the quiz
 - 4.8.3.1.3.1.1. The system will display the overall score
 - 4.8.3.1.3.1.2. The system will display the anxiety score
 - 4.8.3.1.3.1.3. The system will display the attention score
 - 4.8.3.1.3.1.4. The system will display the conduct problem score
 - 4.8.3.1.3.1.5. The system will display the child's mental health score
 - 4.8.3.1.3.1.6. The system will display the evaluation results
 - 4.8.3.1.3.1.7. The system will display the disclaimers
 - 4.8.3.1.3.1.8. The system will display the source of the evaluation
 - 4.8.3.1.4. The system must send the submitted quiz to the respective centre's admin

4.9. Manage Information (Centre-side)

- 4.9.1. Registration (Refer to 4.1 — User Account Registration)
- 4.9.2. Sign in (Refer to 4.2 — Sign in)
- 4.9.3. Search (Refer to 4.3 — Childcare Search)
- 4.9.4. Centre's information (Refer to 4.4 — Childcare Centre's Information)
- 4.9.5. Application
 - 4.9.5.1. The system must allow the centre admin to manage the centre's enrolment applications
 - 4.9.5.1.1. The centre admin must be able to view the enrolment applications for their own centre
 - 4.9.5.1.2. The centre admin must be able to review the application form for each applicant individually
 - 4.9.5.1.2.1. The centre admin must be able to accept the enrolment for each applicant
 - 4.9.5.1.2.2. The centre admin must be able to reject the enrolment for each applicant
 - 4.9.5.2. When the centre admin request to view all the enrolment applications
 - 4.9.5.2.1. The centre must have an existing enrolment applicant
 - 4.9.5.2.1.1. The system must display all existing enrolment applications if they exist. Otherwise, the system will be display a error message
 - 4.9.5.2.2. The system shall display the following information in a table
 - 4.9.5.2.2.1. System will display the centre name of the application id
 - 4.9.5.2.2.2. System will display applicant's child name
 - 4.9.5.2.2.3. System will display the applicant's name
 - 4.9.5.2.2.4. System will display the actions that can be performed on the application
 - 4.9.5.3. When the centre admin request to review the individual applicants form

- 4.9.5.3.1. The centre admin must not be able to change any information in the form submitted by the parent
- 4.9.5.3.2. The centre admin must be able to view all the information of the submitted application form
- 4.9.5.3.3. The centre admin must be able to accept the application
 - 4.9.5.3.3.1. The system must send a offer back to the parent
 - 4.9.5.3.3.2. The centre admin must be able to view the application results
 - 4.9.5.3.3.3. The centre admin must not able to change the application results
- 4.9.5.3.4. The centre admin must be able to decline the application
 - 4.9.5.3.4.1. The system must update the status of the application
 - 4.9.5.3.4.2. The centre admin must be able to view the application results

4.9.6. Day-Visit Schedule

- 4.9.6.1. Appointment status (Refer to 4.7.2 — Childcare Day-Visit Schedule)
- 4.9.6.2. Up to date appointments (Refer to 4.7.3 — Childcare Day-Visit Schedule)
- 4.9.6.3. The system must allow the centre admin to manage the centre's day-visit appointment
 - 4.9.6.3.1. The centre admin must be able to view the centre's day-visit appointment
 - 4.9.6.3.2. The centre admin must be able to confirm the appointment for each applicant
 - 4.9.6.3.3. The centre admin must be able to reject the appointment for each applicant
 - 4.9.6.3.4. The centre admin must be able to cancel the appointment for each applicant
- 4.9.6.4. When the centre admin request to view all the centre's appointment

4.9.6.4.1. The centre must have an existing appointment applicant

4.9.6.4.1.1. The system must display all existing appointments if they exist. Otherwise, the system will display a error message

4.9.6.4.2. The system shall display the following information in a table

4.9.6.4.2.1. System will display the centre name

4.9.6.4.2.2. System will display the centre code

4.9.6.4.2.3. System will display applicant's email

4.9.6.4.2.4. System will display the appointment date and time

4.9.6.4.2.5. System will display the appointment status

4.9.6.4.2.6. System will display the actions that can be performed on the application

4.9.6.5. When the centre admin request to confirm the appointment

4.9.6.5.1. The centre must have an existing appointment applicant

4.9.6.5.1.1. The existing appointment must in pending state

4.9.6.5.2. The centre admin must be able to confirm the appointment

4.9.6.5.3. The system must update the existing appointment status upon request

4.9.6.6. When the centre admin request to reject the appointment

4.9.6.6.1. The centre must have an existing appointment applicant

4.9.6.6.1.1. The existing appointment must in pending state

4.9.6.6.2. The centre admin must be able to reject the appointment

4.9.6.6.3. The system must update the existing appointment status upon request

4.9.6.7. When the centre admin request to cancel the appointment

4.9.6.7.1. The centre must have an existing appointment applicant

4.9.6.7.1.1. The existing appointment must be in confirmed state

4.9.6.7.2. The centre admin must be able to cancel the appointment

4.9.6.7.3. The system must update the existing appointment status upon request

4.9.7. View Evaluation Quiz Result

4.9.7.1. The system must allow the centre admin to view the quiz result of associated parent's child for all managing centres

4.9.7.2. When the centre admin request to view the evaluation quiz result

4.9.7.2.1. The centre must have an existing student in the centre (Approved application)

4.9.7.2.2. The system must display the result of the quiz

4.9.7.2.2.1. The system will display the overall score

4.9.7.2.2.2. The system will display the anxiety score

4.9.7.2.2.3. The system will display the attention score

4.9.7.2.2.4. The system will display the conduct problem score

4.9.7.2.2.5. The system will display the child's mental health score

4.9.7.2.2.6. The system will display the evaluation results

5. Non-functional Requirements

5.1. Usability

- I. Users should be able to use the system with ease.
 - A. System guidance (highlighting relevant fields with a display message) will be provided when a user enters incorrect information in the interest registration form.
- II. Users should be able to complete an intended flow within 10 clicks.

5.2. Reliability

- I. In the event of a server shutdown, webpage downtime must not be more than 5 minutes. (Prep temporarily backup cloud servers etc)
- II. Critical bugs that affect the functionality of the webpage or pose security threats to existing users must be resolved within 15 minutes or else the webpage must be shut down until it has been resolved
- III. Minor bugs that do not affect the functionality of the webpage must be resolved within 24 hours
- IV. Any changes of information in the webpage must be reflected within 1 minute

5.3. Performance

- I. The search should display the results within 2s of user input submission.
- II. When a user clicks on a childcare centre card, the information should appear in less than 1s.
- III. Navigation through the webpage should take less than 2s to load
- IV. API react virtual dom(Document Object Model) helps to boost performance and speed
 - A. Virtual dom allows changes made to a particular component to be independent. Instead of re-rendering all elements and decreasing the throughput, making updates to the components slow.

5.4. Supportability

- I. The database must be replaceable with any commercial product supporting standard SQL queries
- II. The server hosting the webpage must be replaceable with any commercial product supporting (our API)

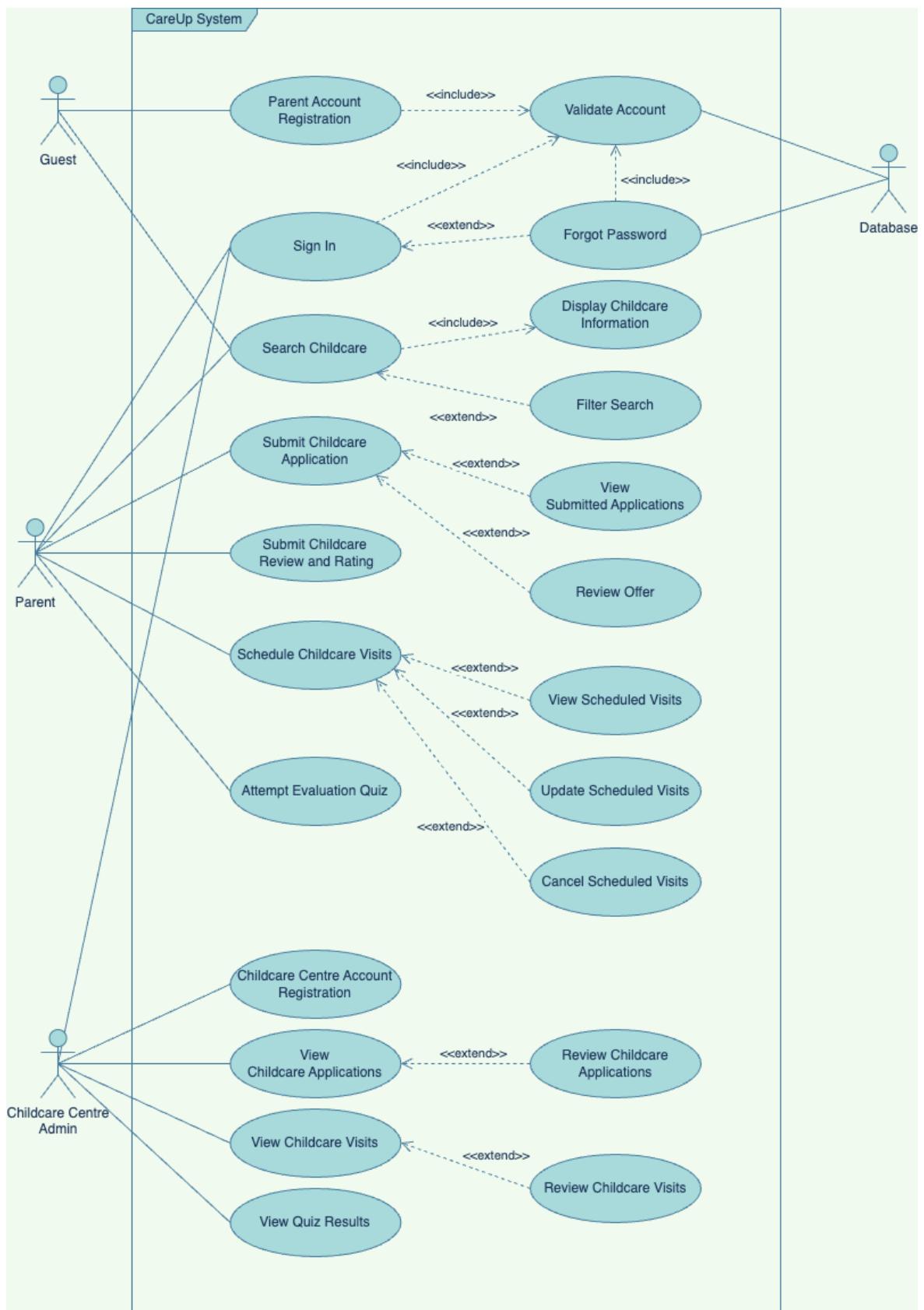
5.5. Security

- I. APIs shall be implemented in the application.

- A. APIs increase the security of the application by separating the components up. Having multiple layers also helps with the encapsulation of the web application.
- II. The application must not leak user personal information, and shall be protected within our database.
 - A. User search history will not be tracked or stored, only be used on the Client-side.
 - B. User information shall be permanently deleted if the user account is deleted.
- III. The application shall handle exceptions.
 - A. Keeping the website operational to the user even when an error has occurred and handling the error appropriately. Thus, ensuring that all errors are kept in reins which minimise the exposure of any backend syntax to the users
 - B. Reminder message shall appear when the user signs up with an invalid email address.
 - C. Reminder message shall appear when the user signs up with an email address that has already been registered.
 - D. Reminder message shall appear when the user types in two different passwords when setting or resetting the password.
 - E. Reminder message shall appear when the user signs in with an incorrect password.
- IV. Axios API for making HTTP requests from node.js
 - A. Use of axios help to intercept HTTP requests and responses and enables client-side protection against CSRF
 - B. Axios allows developers to manually cancel requests, this allows us to clean up any outstanding requests when our user do not require them. Thus, keeping the web behaviour complexity low

6. Use Case Diagrams and Descriptions

6.1. Use Case Diagram



6.2. Use Case List

- A. [UC001 Parent Account Registration](#)
- B. [UC002 Childcare Centre Account Registration](#)
- C. [UC003 Sign In](#)
- D. [UC004 Forget Password](#)
- E. [UC005 Validate Account](#)
- F. [UC006 Search Childcare](#)
- G. [UC007 Filter Search](#)
- H. [UC008 Display Childcare Information](#)
- I. [UC009 Submit Childcare Application](#)
- J. [UC010 View Submitted Applications](#)
- K. [UC011 Review Offer](#)
- L. [UC012 View Childcare Applications](#)
- M. [UC013 Review Childcare Applications](#)
- N. [UC014 Submit Childcare Review and Rating](#)
- O. [UC015 Attempt Evaluation Quiz](#)
- P. [UC016 View Quiz Results](#)
- Q. [UC017 Schedule Childcare Visits](#)
- R. [UC018 View Scheduled Visits](#)
- S. [UC019 Update Scheduled Visits](#)
- T. [UC020 Cancel Scheduled Visits](#)
- U. [UC021 View Childcare Visits](#)
- V. [UC022 Review Childcare Visits](#)

6.3. Use Case Descriptions

Use Case ID:	UC001								
Use Case Name:	Parent Account Registration								
Created By:	Karishein Chandran	Last Updated By:	Choo Jin Cheng						
Date Created:	3/9/2022	Date Last Updated:	10/11/2022						
Actor:	Guest (Initiating Actor), User, Database								
Description:	The guest signs up for a new parent account on the website.								
Preconditions:	1. Guest must not be logged in.								
Postconditions	1. Parent account will be created and stored in the database. 2. User will automatically be signed in, and redirected to the homepage.								
Priority:	Low								
Frequency of Use:	Only once								
Flow of Events:	<table border="1"> <thead> <tr> <th>Actor Steps</th> <th>System Steps</th> </tr> </thead> <tbody> <tr> <td>1. The guest proceeds to register by clicking on the “Parent Registration” option.</td> <td>2. The system directs the user to the registration page to create a new account. 3. The system requests the guest to fill in the required fields.</td> </tr> <tr> <td>4. The guest enters their information into the required fields</td> <td>6. The system validates the information entered in the required fields.</td> </tr> </tbody> </table>			Actor Steps	System Steps	1. The guest proceeds to register by clicking on the “Parent Registration” option.	2. The system directs the user to the registration page to create a new account. 3. The system requests the guest to fill in the required fields.	4. The guest enters their information into the required fields	6. The system validates the information entered in the required fields.
Actor Steps	System Steps								
1. The guest proceeds to register by clicking on the “Parent Registration” option.	2. The system directs the user to the registration page to create a new account. 3. The system requests the guest to fill in the required fields.								
4. The guest enters their information into the required fields	6. The system validates the information entered in the required fields.								

	<p>5. The guest clicks on submit.</p> <p>7. The system transfers the information to the Validate Account.</p> <p>8. Once the system verifies that there is no existing parent account with the inputted email, the system creates the parent account and stores it in the database.</p> <p>9. The system will create a token for the user, automatically signing in the user.</p> <p>10. The system will display a successful message</p> <p>11. The system redirects the user back to the homepage.</p>
Alternative Flows:	<p>AF-S6: If the system validation of the guest input in the required fields is not successful.</p> <ol style="list-style-type: none"> 1. The system displays corresponding error message. 2. The system returns to step 3. <p>AF-S8: If the system found an existing account with the same inputted email.</p> <ol style="list-style-type: none"> 1. The system displays a message “Email already exists.” 2. The system returns to step 3.
Exceptions:	-
Includes:	Validate Account
Special Requirements:	-

Assumptions:	1. The guest signing up has a valid personal email, Singapore address and phone number. 2. Users must be connected to the internet.
Notes and Issues:	-

Use Case ID:	UC002						
Use Case Name:	Childcare Centre Account Registration						
Created By:	Karishein Chandran	Last Updated By:	Choo Jin Cheng				
Date Created:	8/9/2022	Date Last Updated:	10/11/2022				
Actor:	Guest (Initiating Actor), CentreAdmin, Database						
Description:	The guest signs up for a new childcare centre admin account on the website.						
Preconditions:	1. Guest must not be logged in.						
Postconditions	1. Childcare centre account will be created and stored in the database. 2. CentreAdmin will automatically be signed in, and redirected to the homepage.						
Priority:	Low						
Frequency of Use:	Only once						
Flow of Events:	<table border="1"> <thead> <tr> <th>Actor Steps</th> <th>System Steps</th> </tr> </thead> <tbody> <tr> <td>1. The guest proceeds to register by clicking on the "Centre Admin"</td> <td>2. The system directs the guest to the registration page to create a new</td> </tr> </tbody> </table>			Actor Steps	System Steps	1. The guest proceeds to register by clicking on the "Centre Admin"	2. The system directs the guest to the registration page to create a new
Actor Steps	System Steps						
1. The guest proceeds to register by clicking on the "Centre Admin"	2. The system directs the guest to the registration page to create a new						

	<p>Registration” option.</p> <p>account.</p> <ol style="list-style-type: none"> 3. The system requests the guest to fill in the required fields. 	
	<ol style="list-style-type: none"> 4. The guest enters their information into the required fields. 5. The guest clicks on submit. 	<ol style="list-style-type: none"> 6. The system validates the information entered in the required fields. 7. The system transfers the information to the Validate Account. 8. Once the system verifies that there is no existing centreadmin account with the inputted email, the system creates the centreadmin account and stores it in the database. 9. The system will create a token for the centreadmin, automatically signing in the centreadmin. 10. The system will display a successful message 11. The system redirects the centreadmin back to the homepage.
Alternative Flows:	<p>AF-S6: If the system validation of the guest input in the required fields is not successful.</p> <ol style="list-style-type: none"> 1. The system displays corresponding error message. 2. The system returns to step 3. <p>AF-S8: If the system found an existing account with the same inputted email.</p> <ol style="list-style-type: none"> 1. The system displays a message “Email already exists.” 	

	2. The system returns to step 3.
Exceptions:	-
Includes:	Validate Account
Special Req:	-
Assumptions:	<ul style="list-style-type: none"> 1. The guest signing up has a valid company email, Singapore address and phone number. 2. The childcare centre is a Singapore-based registered organisation. 3. Users must be connected to the internet.
Notes and Issues:	-

Use Case ID:	UC003		
Use Case Name:	Sign In		
Created By:	Sydney Teo	Last Updated By:	Choo Jin Cheng
Date Created:	3/9/2022	Date Last Updated:	10/11/2022
Actor:	Guest (Initiating Actor), User, CentreAdmin, Database		
Description:	The guest signs in to an existing account.		
Preconditions:	<ul style="list-style-type: none"> 1. Guest has a valid account in the database, either a Parent or CentreAdmin account. 2. Guest is not logged in yet. 		
Postconditions:	User/CentreAdmin will be signed in, and redirected to the homepage.		
Priority:	Low		

Frequency of Use:	2 - 3 times a week							
Flow of Events:	<table border="1"> <thead> <tr> <th>Actor Steps</th><th>System Steps</th></tr> </thead> <tbody> <tr> <td>1. The guest proceeds to sign in by clicking on the "Sign In" button.</td><td>2. The system directs the guest to the sign in page. 3. The system requests the guest to fill in the required fields for email and password.</td></tr> <tr> <td>4. The guest enters the required fields for email and password, and the "Are you a centreAdmin?" switch button is turned off. 5. The guest clicks on sign in.</td><td>6. The system validates the information entered in the required fields. 7. The system transfers the information to the Validate Account. 8. Once the corresponding parent account is found, the system creates a token for the user, signing in the user. 9. The system redirects the user back to the homepage.</td></tr> </tbody> </table>		Actor Steps	System Steps	1. The guest proceeds to sign in by clicking on the "Sign In" button.	2. The system directs the guest to the sign in page. 3. The system requests the guest to fill in the required fields for email and password.	4. The guest enters the required fields for email and password, and the "Are you a centreAdmin?" switch button is turned off. 5. The guest clicks on sign in.	6. The system validates the information entered in the required fields. 7. The system transfers the information to the Validate Account. 8. Once the corresponding parent account is found, the system creates a token for the user, signing in the user. 9. The system redirects the user back to the homepage.
Actor Steps	System Steps							
1. The guest proceeds to sign in by clicking on the "Sign In" button.	2. The system directs the guest to the sign in page. 3. The system requests the guest to fill in the required fields for email and password.							
4. The guest enters the required fields for email and password, and the "Are you a centreAdmin?" switch button is turned off. 5. The guest clicks on sign in.	6. The system validates the information entered in the required fields. 7. The system transfers the information to the Validate Account. 8. Once the corresponding parent account is found, the system creates a token for the user, signing in the user. 9. The system redirects the user back to the homepage.							
Alternative Flows:	<p>AF-S4: If the "Are you a centreAdmin?" switch button is turned on.</p> <ol style="list-style-type: none"> The database table that the system checks in step 8 will be centreadmin instead of the default user table. The system continues to step 5. <p>AF-S6: If the system validation of the guest input in the required fields is not successful.</p> <ol style="list-style-type: none"> The system displays corresponding error message. 							

	<p>2. The system returns to step 3.</p> <p>AF-S8: The system returns that the email does not exist or the password does not match the record in the database.</p> <ol style="list-style-type: none"> 1. The system shall prompt the user that the email or password is invalid. 2. The system returns to step 3.
Exceptions:	-
Includes:	Validate Account
Special Requirements:	-
Assumptions:	Users must be connected to the internet.
Notes and Issues:	-

Use Case ID:	UC004		
Use Case Name:	Forget Password		
Created By:	Choo Jin Cheng	Last Updated By:	Choo Jin Cheng
Date Created:	05/09/2022	Date Last Updated:	10/11/2022
Actor:	Guest (Initiating Actor), User, CentreAdmin, Database		
Description:	The guest has forgotten their existing password, hence they have to reset their password to gain access to their account.		
Preconditions:	<ol style="list-style-type: none"> 1. Invoked as an extend use case by Sign In. 2. Guest must have a registered account, either as a User or 		

	<p>CentreAdmin.</p> <p>3. Guest must not be logged in.</p>										
Postconditions:	<p>1. The account details will have their password updated in the database.</p> <p>2. Guest will be redirected to the homepage.</p>										
Priority:	Low										
Frequency of Use:	Once every 3 months										
Flow of Events:	<table border="1"> <thead> <tr> <th>Actor Steps</th><th>System Steps</th></tr> </thead> <tbody> <tr> <td>1. The guest proceeds to initiate resetting of password by clicking on the “Forget Password” link.</td><td> <p>2. The system directs the guest to the forget password page.</p> <p>3. The system requests the guest to fill in the required fields for email, OTP, and new password.</p> </td></tr> <tr> <td>4. The guest has to first click on the OTP button.</td><td>5. OTP will be sent to the guest.</td></tr> <tr> <td>6. The guest enters their information into the required fields, and the “Are you a centreAdmin?” switch button is turned off.</td><td> <p>8. The system validates the information entered in the required fields.</p> <p>9. The system transfers the information to the Validate Account.</p> </td></tr> <tr> <td>7. The guest clicks on update.</td><td> <p>10. Once the system verifies that there is an existing account, the system updates the user’s password in the database.</p> <p>11. The system will display a</p> </td></tr> </tbody> </table>	Actor Steps	System Steps	1. The guest proceeds to initiate resetting of password by clicking on the “Forget Password” link.	<p>2. The system directs the guest to the forget password page.</p> <p>3. The system requests the guest to fill in the required fields for email, OTP, and new password.</p>	4. The guest has to first click on the OTP button.	5. OTP will be sent to the guest.	6. The guest enters their information into the required fields, and the “Are you a centreAdmin?” switch button is turned off.	<p>8. The system validates the information entered in the required fields.</p> <p>9. The system transfers the information to the Validate Account.</p>	7. The guest clicks on update.	<p>10. Once the system verifies that there is an existing account, the system updates the user’s password in the database.</p> <p>11. The system will display a</p>
Actor Steps	System Steps										
1. The guest proceeds to initiate resetting of password by clicking on the “Forget Password” link.	<p>2. The system directs the guest to the forget password page.</p> <p>3. The system requests the guest to fill in the required fields for email, OTP, and new password.</p>										
4. The guest has to first click on the OTP button.	5. OTP will be sent to the guest.										
6. The guest enters their information into the required fields, and the “Are you a centreAdmin?” switch button is turned off.	<p>8. The system validates the information entered in the required fields.</p> <p>9. The system transfers the information to the Validate Account.</p>										
7. The guest clicks on update.	<p>10. Once the system verifies that there is an existing account, the system updates the user’s password in the database.</p> <p>11. The system will display a</p>										

		successful message 12. The system will redirect the guest back to the homepage.
Alternative Flows:	<p>AF-S6: If the “Are you a centreAdmin?” switch button is turned on.</p> <ol style="list-style-type: none"> 1. The database table that the system checks in step 10 will be centreadmin instead of the default user table. 2. The system continues to step 7. <p>AF-S8: If the system validation of the guest input in the required fields is not successful.</p> <ol style="list-style-type: none"> 1. The system displays the corresponding error message. 2. The system returns to step 3. 	
Exceptions:	-	
Includes:	Validate Account	
Special Requirements:	-	
Assumptions:	<ol style="list-style-type: none"> 1. Users have a chance of forgetting their password. 2. Users must be connected to the internet. 	
Notes and Issues:	Guest is not automatically signed in after the successful update of the password.	

Use Case ID:	UC005		
Use Case Name:	Validate Account		
Created By:	Choo Jin Cheng	Last Updated By:	Melissa Ng

Date Created:	05/09/2022	Date Last Updated:	30/10/2022				
Actor:	Database						
Description:	To validate if the user has a registered account in the database						
Preconditions:	<p>Invocation as an included use case by the following use cases:</p> <ul style="list-style-type: none"> - Parent Account Registration - Childcare Centre Account Registration - Sign In - Forget Password 						
Postconditions:	The system returns whether an account exists in the database or not.						
Priority:	Low						
Frequency of Use:	Rarely 1-2 time/web usage						
Flow of Events:	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; padding: 5px;">Actor Steps</th> <th style="text-align: center; padding: 5px;">System Steps</th> </tr> </thead> <tbody> <tr> <td style="padding: 10px; vertical-align: top;"> 1. The user invokes one of the pre-conditions use case which provides a valid user email. </td><td style="padding: 10px; vertical-align: top;"> 2. The system retrieves a list of users with the given email. 3. The system returns that there is no existing account with the given email in the database. </td></tr> </tbody> </table>			Actor Steps	System Steps	1. The user invokes one of the pre-conditions use case which provides a valid user email.	2. The system retrieves a list of users with the given email. 3. The system returns that there is no existing account with the given email in the database.
Actor Steps	System Steps						
1. The user invokes one of the pre-conditions use case which provides a valid user email.	2. The system retrieves a list of users with the given email. 3. The system returns that there is no existing account with the given email in the database.						
Alternative Flows:	<p>AF-S3: There is an existing account with the given email found in the database.</p> <p>1. The system returns that there is an existing account with the given email in the database.</p>						
Exceptions:	-						

Includes:	-
Special Requirements:	The validation process must not take more than 2 seconds to process.
Assumptions:	<ol style="list-style-type: none">1. Given information provided in the precondition use cases are valid.2. Users must be connected to the internet.
Notes and Issues:	-

Use Case ID:	UC006								
Use Case Name:	Search Childcare								
Created By:	Choo Jin Cheng	Last Updated By:	Karishein Chandran						
Date Created:	05/09/2022	Date Last Updated:	03/11/2022						
Actor:	User (Initiating Actor), Database								
Description:	User to enter any keywords and a list of childcare centre will be queried accordingly								
Preconditions:	User must enter a character								
Postconditions:	Childcare centre results queried from user's query will be displayed								
Priority:	Medium								
Frequency of Use:	Frequently 7-8 time/web usage								
Flow of Events:	<table border="1"> <thead> <tr> <th>Actor Steps</th><th>System Steps</th></tr> </thead> <tbody> <tr> <td></td><td>1. System requests input for the search query</td></tr> <tr> <td>2. User enters any characters into the search query</td><td> 3. System retrieves the list of childcare centre from the database based on the query 4. System returns the list of result with the option of viewing more details to the user for each distinct centre </td></tr> </tbody> </table>			Actor Steps	System Steps		1. System requests input for the search query	2. User enters any characters into the search query	3. System retrieves the list of childcare centre from the database based on the query 4. System returns the list of result with the option of viewing more details to the user for each distinct centre
Actor Steps	System Steps								
	1. System requests input for the search query								
2. User enters any characters into the search query	3. System retrieves the list of childcare centre from the database based on the query 4. System returns the list of result with the option of viewing more details to the user for each distinct centre								

Alternative Flows:	<p>AF-S4: If result is empty</p> <ol style="list-style-type: none"> 1. System displays “No centres found” 2. System returns to step 1
Exceptions:	-
Includes:	Display Childcare Information
Special Requirements:	The search process must not take more than 2 seconds to process
Assumptions:	<ol style="list-style-type: none"> 1. User must be connected to the internet. 2. User would like to find a specific centre by their name
Notes and Issues:	-

Use Case ID:	UC007										
Use Case Name:	Filter/Sort Search										
Created By:	Choo Jin Cheng	Last Updated By:	Karishein Chandran								
Date Created:	05/09/2022	Date Last Updated:	03/11/2022								
Actor:	User (Initiating Actor), Database										
Description:	User can select filters to further narrow down their searches and sort the result										
Preconditions:	1. Invocation as an extend use case by Search Childcare 2. At least 1 filter must be selected										
Postconditions:	A list of sorted and filtered childhood centres will be returned to the precondition use case										
Priority:	Low										
Frequency of Use:	Moderately 2-3 times/web usage										
Flow of Events:	<table border="1"> <thead> <tr> <th>Actor Steps</th> <th>System Steps</th> </tr> </thead> <tbody> <tr> <td></td> <td> 1. System display the possible inputs from a filter checkbox list and sort list </td></tr> <tr> <td></td> <td> 2. User to select 1 or more filters selection and 1 selection for sort </td></tr> <tr> <td></td> <td> 3. System retrieves a list of childhood centre from the database based on the filters and sort applied 4. System return the sorted and filtered list of childhood centre to the </td></tr> </tbody> </table>			Actor Steps	System Steps		1. System display the possible inputs from a filter checkbox list and sort list		2. User to select 1 or more filters selection and 1 selection for sort		3. System retrieves a list of childhood centre from the database based on the filters and sort applied 4. System return the sorted and filtered list of childhood centre to the
Actor Steps	System Steps										
	1. System display the possible inputs from a filter checkbox list and sort list										
	2. User to select 1 or more filters selection and 1 selection for sort										
	3. System retrieves a list of childhood centre from the database based on the filters and sort applied 4. System return the sorted and filtered list of childhood centre to the										

		precondition use case
Alternative Flows:	AF-S4: If filtered result is empty <ul style="list-style-type: none"> 1. System displays "No centres found" 2. System returns to step 1 	
Exceptions:	-	
Includes:	-	
Special Requirements:	-	
Assumptions:	<ol style="list-style-type: none"> 1. User must be connected to the internet. 2. User would like to narrow down their centre choices by filtering a certain parameters such as price 	
Notes and Issues:	-	

Use Case ID:	UC008		
Use Case Name:	Display Childcare Information		
Created By:	Tulip Majumder	Last Updated By:	Melissa Ng
Date Created:	08/09/2022	Date Last Updated:	30/10/2022
Actor:	Guest/ Parent / CentreAdmin (Initiating Actor), Database		
Description:	The system displays information of the childcare centre that was clicked on by any of the actors.		
Preconditions:	Invoked as an include use case by Search Childcare.		

Postconditions:	The selected childcare centre details, along with its ratings and reviews are displayed.					
Priority:	Low					
Frequency of Use:	Frequent (whenever parent uses the application)					
Flow of Events:	<table border="1"> <thead> <tr> <th>Actor Steps</th><th>System Steps</th></tr> </thead> <tbody> <tr> <td>1. The guest/centreadmin/parent clicks on a particular childcare centre from the homepage.</td><td>2. The system retrieves information on the selected childcare centre. 3. The system directs the parent to a new webpage and outputs retrieved information (including contact information, operating hours etc.) as well as the reviews and ratings for the centre.</td></tr> </tbody> </table>		Actor Steps	System Steps	1. The guest/centreadmin/parent clicks on a particular childcare centre from the homepage.	2. The system retrieves information on the selected childcare centre. 3. The system directs the parent to a new webpage and outputs retrieved information (including contact information, operating hours etc.) as well as the reviews and ratings for the centre.
Actor Steps	System Steps					
1. The guest/centreadmin/parent clicks on a particular childcare centre from the homepage.	2. The system retrieves information on the selected childcare centre. 3. The system directs the parent to a new webpage and outputs retrieved information (including contact information, operating hours etc.) as well as the reviews and ratings for the centre.					
Alternative Flows:	<p>AF-S3: If the guest was logged into a parent account,</p> <ol style="list-style-type: none"> 1. Along with the step 3 information, there will be checks to show the following buttons, <ol style="list-style-type: none"> a. “Apply Now” button linking to the Application page will be shown. b. If a parent has a child enrolled into the centre, “Review Here” button linking to the Review page will be shown. c. If the parent has not scheduled a visit to the centre yet, “Schedule Visit” button will be enabled. 					
Exceptions:	-					
Includes:	-					

Special Requirements:	-
Assumptions:	<ol style="list-style-type: none"> 1. User must be connected to the internet. 2. There is at least 1 centre shown on the homepage.
Notes and Issues:	This use case is available to anyone who visits the site.

Use Case ID:	UC009				
Use Case Name:	Submit Childcare Application				
Created By:	Tulip Majumder	Last Updated By:	Choo Jin Cheng		
Date Created:	08/09/2022	Date Last Updated:	10/11/2022		
Actor:	Parent (Initiating Actor), Database				
Description:	The parent submits an application for their child to be enrolled to the particular childcare centre.				
Preconditions:	Parent must be logged in				
Postconditions:	<ol style="list-style-type: none"> 1. Application will be created with the application status changed to "PENDING_CENTRE" 2. Application is sent to corresponding CentreAdmin 				
Priority:	Low				
Frequency of Use:	Seldom				
Flow of Events:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px; width: 50%;">Actor Steps</td> <td style="padding: 5px; width: 50%;">System Steps</td> </tr> </table>			Actor Steps	System Steps
Actor Steps	System Steps				

	<ol style="list-style-type: none"> 1. The parent proceeds to register by clicking on the “Apply Now” option. 2. The system directs the parent to the registration page to create a new account. 3. The system requests the parent to fill in the required fields in Part 1: Child Enrolment Details, Part 2: Applicant and Spouse Details, and Part 3: Employment and Income Details of Applicant and Spouse with valid information. 	
	<ol style="list-style-type: none"> 4. The parent fills in Part 1: Child Enrolment Details, Part 2: Applicant and Spouse Details, and Part 3: Employment and Income Details of Applicant and Spouse with valid information. 5. The parent clicks on submit. 	<ol style="list-style-type: none"> 6. The system validates the information and creates the new application record in the database. 7. The system will display a successful message 8. The system redirects the parent back to the homepage.
Alternative Flows:	<p>AF-S6: If the system validation of the parent input in the required fields is not successful.</p> <ol style="list-style-type: none"> 1. The system displays a corresponding error message. 2. The system returns to step 3. 	
Exceptions:	-	
Includes:	-	
Special Requirements:	-	

Assumptions:	Parent must be connected to the internet.
Notes and Issues:	-

Use Case ID:	UC010						
Use Case Name:	View Submitted Applications						
Created By:	Tulip Majumder	Last Updated By:	Melissa Ng				
Date Created:	08/09/2022	Date Last Updated:	30/10/2022				
Actor:	Parent (Initiating Actor), Database						
Description:	The parent wants to see the list of centre applications they have submitted.						
Preconditions:	1. Invoked as an extended use case by UC009 — Submit Childcare Application. 2. Parent must be logged in.						
Postconditions:	The list of submitted applications by the parent will be displayed, along with their application status and any action required from their side.						
Priority:	Low						
Frequency of Use:	Seldom						
Flow of Events:	<table border="1"> <thead> <tr> <th>Actor Steps</th> <th>System Steps</th> </tr> </thead> <tbody> <tr> <td>1. The parent proceeds to click on the "Submitted"</td> <td>2. The system directs the parent to the view submitted applications</td> </tr> </tbody> </table>			Actor Steps	System Steps	1. The parent proceeds to click on the "Submitted"	2. The system directs the parent to the view submitted applications
Actor Steps	System Steps						
1. The parent proceeds to click on the "Submitted"	2. The system directs the parent to the view submitted applications						

	<p>Applications” link.</p> <p>page.</p> <ol style="list-style-type: none"> 3. The system retrieves the submitted applications pertaining to the current parent . 4. The system displays the obtained applications, along with their application status and any action required from the parent side.
Alternative Flows:	<p>AF-S4: There are no applications obtained.</p> <ol style="list-style-type: none"> 1. The system returns the prompt, “You currently have 0 centre applications. Start applying now!”.
Exceptions:	-
Includes:	-
Special Requirements:	-
Assumptions:	-
Notes and Issues:	Not necessary for the user to have submitted an application before.

Use Case ID:	UC011		
Use Case Name:	Review Offer		
Created By:	Melissa Ng	Last Updated By:	Melissa Ng

Date Created:	8/9/2022	Date Last Updated:	30/10/2022				
Actor:	Parent (Initiating Actor), Database						
Description:	The parent will be able to determine whether they'd like to accept the offer for their child or not.						
Preconditions:	<ol style="list-style-type: none"> 1. Invoked as an extended use case by UC009 — Submit Childcare Application. 2. The user has to be logged in. 3. The user has at least 1 application with the status “PENDING_PARENT”. 						
Postconditions:	<ol style="list-style-type: none"> 1. The application status will be updated from “PENDING_PARENT” to either “OFFER_APPROVED”, or “OFFER_REJECTED”. 2. All other pending applications will have their application status updated to “OFFER_REJECTED”. 						
Priority:	Medium						
Frequency of Use:	Occasionally						
Flow of Events:	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; padding: 5px;">Actor Steps</th><th style="text-align: center; padding: 5px;">System Steps</th></tr> </thead> <tbody> <tr> <td style="padding: 10px;"> <ol style="list-style-type: none"> 1. The user is able to scroll through the submitted applications. 2. The user is able to click on a selected application with the “ACCEPT” button. </td><td style="padding: 10px;"> <ol style="list-style-type: none"> 3. The system will update the status of the selected application from “PENDING_PARENT” to “OFFER_APPROVED”. 4. The system will update the status of all other pending applications for the same child to “OFFER_REJECTED”. 5. The system will display a </td></tr> </tbody> </table>			Actor Steps	System Steps	<ol style="list-style-type: none"> 1. The user is able to scroll through the submitted applications. 2. The user is able to click on a selected application with the “ACCEPT” button. 	<ol style="list-style-type: none"> 3. The system will update the status of the selected application from “PENDING_PARENT” to “OFFER_APPROVED”. 4. The system will update the status of all other pending applications for the same child to “OFFER_REJECTED”. 5. The system will display a
Actor Steps	System Steps						
<ol style="list-style-type: none"> 1. The user is able to scroll through the submitted applications. 2. The user is able to click on a selected application with the “ACCEPT” button. 	<ol style="list-style-type: none"> 3. The system will update the status of the selected application from “PENDING_PARENT” to “OFFER_APPROVED”. 4. The system will update the status of all other pending applications for the same child to “OFFER_REJECTED”. 5. The system will display a 						

		<p>successful message.</p> <p>6. The system will redirect the parent back to the homepage.</p>
Alternative Flows:	<p>AF-S2: The parent declines the placement by clicking on the “REJECT” button.</p> <ol style="list-style-type: none"> 1. The system will update the status of the selected application from “PENDING_PARENT” to “OFFER_REJECTED”. 2. The system will display a successful message. 3. The system will redirect the parent back to the homepage. 	
Exceptions:	-	
Includes:	-	
Special Requirements:	-	
Assumptions:	Users must be connected to the internet.	
Notes and Issues:	-	

Use Case ID:	UC012		
Use Case Name:	View Childcare Applications		
Created By:	Melissa Ng	Last Updated By:	Melissa Ng
Date Created:	8/9/2022	Date Last Updated:	10/11/2022

Actor:	Childcare Centre Admin (Initiating Actor), Database				
Description:	The childcare admin will be able to view all of the submitted applications, regardless of the application's status.				
Preconditions:	<ol style="list-style-type: none"> 1. The centredmin has to be logged into a CareUp Centre Account. 2. The centreadmin must have at least 1 centre listing under the account. 				
Postconditions:	The list of applications under that centre's organisation is displayed.				
Priority:	Low				
Frequency of Use:	Frequently				
Flow of Events:	<table border="1"> <thead> <tr> <th>Actor Steps</th><th>System Steps</th></tr> </thead> <tbody> <tr> <td> <ol style="list-style-type: none"> 1. The centreadmin clicks on "Parent Applications". </td><td> <ol style="list-style-type: none"> 2. The system directs the centreadmin to the parent applications page. 3. The system retrieves information on the relevant submitted applications managed by the centre's organization, along with their current required action. 4. The system displays the list of applications obtained. 5. The system invokes UC013 - Review Childcare Applications use case. </td></tr> </tbody> </table>	Actor Steps	System Steps	<ol style="list-style-type: none"> 1. The centreadmin clicks on "Parent Applications". 	<ol style="list-style-type: none"> 2. The system directs the centreadmin to the parent applications page. 3. The system retrieves information on the relevant submitted applications managed by the centre's organization, along with their current required action. 4. The system displays the list of applications obtained. 5. The system invokes UC013 - Review Childcare Applications use case.
Actor Steps	System Steps				
<ol style="list-style-type: none"> 1. The centreadmin clicks on "Parent Applications". 	<ol style="list-style-type: none"> 2. The system directs the centreadmin to the parent applications page. 3. The system retrieves information on the relevant submitted applications managed by the centre's organization, along with their current required action. 4. The system displays the list of applications obtained. 5. The system invokes UC013 - Review Childcare Applications use case. 				

Alternative Flows:	-
Exceptions:	<p>EX4: The system is unable to find any applications respective to the centre, in the database.</p> <ol style="list-style-type: none"> 1. The system will display “No submissions found yet for this centre listing.”
Includes:	-
Special Requirements:	-
Assumptions:	User must be connected to the internet.
Notes and Issues:	-

Use Case ID:	UC013		
Use Case Name:	Review Childcare Applications		
Created By:	Melissa Ng	Last Updated By:	Melissa Ng
Date Created:	8/9/2022	Date Last Updated:	30/10/2022
Actor:	CentreAdmin (Initiating Actor), Database		
Description:	<p>The childcare centre admin will be able to review the submitted applications from the parents, by either:</p> <ul style="list-style-type: none"> - Offering a placement, or - Declining the application. 		
Preconditions:	<ol style="list-style-type: none"> 1. Invoked as an extended use case by UC012 — View Childcare Applications. 2. The childcare centre admin is logged into an authenticated CareUp Centre Account. 		

	<p>3. The childcare centre admin must have at least 1 centre listing under the account.</p> <p>4. The childcare centre must have at least 1 submitted application from Parent.</p>						
Postconditions:	Application status will be updated from “PENDING_CENTRE” to “PENDING_PARENT” or to “APP_REJECTED”.						
Priority:	Medium						
Frequency of Use:	Frequently (Expected 5 applications per day)						
Flow of Events:	<table border="1"> <thead> <tr> <th>Actor Steps</th><th>System Steps</th></tr> </thead> <tbody> <tr> <td> <p>1. The centreadmin is able to scroll through the submitted applications.</p> <p>2. The centreadmin is able to click on a selected application with the “VIEW” button displayed.</p> </td><td> <p>3. The system will obtain the application content from the database.</p> <p>4. The system will display the submitted application form, with the input values from the submission.</p> <p>5. The system will display “Reject” or “Accept” buttons at the bottom of the application.</p> </td></tr> <tr> <td> <p>6. The centreadmin selects the “Accept” button.</p> </td><td> <p>7. The system will update the status of the application from “PENDING_CENTRE” to “PENDING_PARENT”.</p> <p>8. The system will display a successful message.</p> <p>9. The system will redirect centreadmin back to the homepage.</p> </td></tr> </tbody> </table>	Actor Steps	System Steps	<p>1. The centreadmin is able to scroll through the submitted applications.</p> <p>2. The centreadmin is able to click on a selected application with the “VIEW” button displayed.</p>	<p>3. The system will obtain the application content from the database.</p> <p>4. The system will display the submitted application form, with the input values from the submission.</p> <p>5. The system will display “Reject” or “Accept” buttons at the bottom of the application.</p>	<p>6. The centreadmin selects the “Accept” button.</p>	<p>7. The system will update the status of the application from “PENDING_CENTRE” to “PENDING_PARENT”.</p> <p>8. The system will display a successful message.</p> <p>9. The system will redirect centreadmin back to the homepage.</p>
Actor Steps	System Steps						
<p>1. The centreadmin is able to scroll through the submitted applications.</p> <p>2. The centreadmin is able to click on a selected application with the “VIEW” button displayed.</p>	<p>3. The system will obtain the application content from the database.</p> <p>4. The system will display the submitted application form, with the input values from the submission.</p> <p>5. The system will display “Reject” or “Accept” buttons at the bottom of the application.</p>						
<p>6. The centreadmin selects the “Accept” button.</p>	<p>7. The system will update the status of the application from “PENDING_CENTRE” to “PENDING_PARENT”.</p> <p>8. The system will display a successful message.</p> <p>9. The system will redirect centreadmin back to the homepage.</p>						

Alternative Flows:	<p>AF-S6: The centreadmin selects the “Reject” button.</p> <ol style="list-style-type: none"> 1. The system will update the status of the application from “PENDING_CENTRE” to “APP_REJECTED”.
Exceptions:	<p>EX1: The centreadmin presses the back button during the review process</p> <ol style="list-style-type: none"> 1. The system terminates the review process and returns to the homepage.
Includes:	-
Special Requirements:	-
Assumptions:	User must be connected to the internet.
Notes and Issues:	-

Use Case ID:	UC014		
Use Case Name:	Submit Childcare Review and Rating		
Created By:	Tulip Majumder	Last Updated By:	Melissa Ng
Date Created:	08/09/2022	Date Last Updated:	30/10/2022
Actor:	User (Initiating Actor), Database		
Description:	User can submit centre ratings on a scale of 1-5 and include some reviews of the childcare centre.		
Preconditions:	<ol style="list-style-type: none"> 1. User must be logged in. 2. User must have a child who is enrolled under that childcare centre. 		

	3. User has to be on the Display Childcare Information page.						
Postconditions:	<ol style="list-style-type: none"> 1. Rating and review record of centre will be created. 2. User will be redirected to the homepage. 						
Priority:	Low						
Frequency of Use:	Seldom						
Flow of Events:	<table border="1"> <thead> <tr> <th>Actor Steps</th><th>System Steps</th></tr> </thead> <tbody> <tr> <td> <ol style="list-style-type: none"> 1. The user will click on the “Review Here” button. </td><td> <ol style="list-style-type: none"> 2. The system directs the user to the rating and review page to create a new record. 3. The system requests the guest to fill in the required fields. </td></tr> <tr> <td> <ol style="list-style-type: none"> 4. The user is prompted to rate the childcare centre on a scale of 1-5 based on different categories, along with a text box to include their thoughts. 5. The user submits the review. </td><td> <ol style="list-style-type: none"> 6. The system validates the information entered in the required fields. 7. Once the system validates that information, the system creates the rating and review record for that selected centre and stores it in the database. 8. The system will display a successful message 9. The system redirects the user back to the homepage. </td></tr> </tbody> </table>	Actor Steps	System Steps	<ol style="list-style-type: none"> 1. The user will click on the “Review Here” button. 	<ol style="list-style-type: none"> 2. The system directs the user to the rating and review page to create a new record. 3. The system requests the guest to fill in the required fields. 	<ol style="list-style-type: none"> 4. The user is prompted to rate the childcare centre on a scale of 1-5 based on different categories, along with a text box to include their thoughts. 5. The user submits the review. 	<ol style="list-style-type: none"> 6. The system validates the information entered in the required fields. 7. Once the system validates that information, the system creates the rating and review record for that selected centre and stores it in the database. 8. The system will display a successful message 9. The system redirects the user back to the homepage.
Actor Steps	System Steps						
<ol style="list-style-type: none"> 1. The user will click on the “Review Here” button. 	<ol style="list-style-type: none"> 2. The system directs the user to the rating and review page to create a new record. 3. The system requests the guest to fill in the required fields. 						
<ol style="list-style-type: none"> 4. The user is prompted to rate the childcare centre on a scale of 1-5 based on different categories, along with a text box to include their thoughts. 5. The user submits the review. 	<ol style="list-style-type: none"> 6. The system validates the information entered in the required fields. 7. Once the system validates that information, the system creates the rating and review record for that selected centre and stores it in the database. 8. The system will display a successful message 9. The system redirects the user back to the homepage. 						
Alternative Flows:	AF-S6: If the system validation of the user input in the required						

	<p>fields is not successful.</p> <ol style="list-style-type: none"> 1. The system displays a corresponding error message. 2. The system returns to step 3.
Exceptions:	-
Includes:	-
Special Requirements:	-
Assumptions:	User must be connected to the internet.
Notes and Issues:	Just a note that the check whether the parent has a child enrolled under the school, has already been done in the Display Childcare Information UC008.

Use Case ID:	UC015		
Use Case Name:	Attempt Evaluation Quiz		
Created By:	Melissa Ng	Last Updated By:	Choo Jin Cheng
Date Created:	31/10/2022	Date Last Updated:	10/11/2022
Actor:	Parent (Initiating Actor), Database		
Description:	Parent completes a psychiatric evaluation quiz of their child.		
Preconditions:	Parent must be logged in.		
Postconditions:	The child's evaluation results will be created and stored in the database, if the evaluation for that child already exists, it will replace the results with the newer information.		

Priority:	Low									
Frequency of Use:	Seldom, once every year									
Flow of Events:	<table border="1"> <thead> <tr> <th>Actor Steps</th><th>System Steps</th></tr> </thead> <tbody> <tr> <td>1. Parent proceeds by clicking on "Quiz".</td><td>2. The system directs parent to the evaluation quiz page. 3. The system requests parent to fill in their best estimation for the 31 questions.</td></tr> <tr> <td>4. Parent fills in their best estimation for the 31 questions. 5. Parent clicks on submit.</td><td>6. The system validates the information entered in the required fields. 7. The system will check for an existing record, and create a record if none is found. 8. The system will redirect parent to the evaluation results. 9. The system will display the evaluation results.</td></tr> <tr> <td>10. Parent can click on the "Return Home" button.</td><td>11. The system will redirect parent back to the homepage.</td></tr> </tbody> </table>		Actor Steps	System Steps	1. Parent proceeds by clicking on "Quiz".	2. The system directs parent to the evaluation quiz page. 3. The system requests parent to fill in their best estimation for the 31 questions.	4. Parent fills in their best estimation for the 31 questions. 5. Parent clicks on submit.	6. The system validates the information entered in the required fields. 7. The system will check for an existing record, and create a record if none is found. 8. The system will redirect parent to the evaluation results. 9. The system will display the evaluation results.	10. Parent can click on the "Return Home" button.	11. The system will redirect parent back to the homepage.
Actor Steps	System Steps									
1. Parent proceeds by clicking on "Quiz".	2. The system directs parent to the evaluation quiz page. 3. The system requests parent to fill in their best estimation for the 31 questions.									
4. Parent fills in their best estimation for the 31 questions. 5. Parent clicks on submit.	6. The system validates the information entered in the required fields. 7. The system will check for an existing record, and create a record if none is found. 8. The system will redirect parent to the evaluation results. 9. The system will display the evaluation results.									
10. Parent can click on the "Return Home" button.	11. The system will redirect parent back to the homepage.									
Alternative Flows:	<p>AF-S6: If the system validation of the user input in the required fields is not successful.</p> <ol style="list-style-type: none"> 1. The system displays a corresponding error message. 2. The system returns to step 3. 									

	<p>AF-S7: If the system finds an existing evaluation record.</p> <ol style="list-style-type: none"> 1. The system will update the existing record instead of creating a new one.
Exceptions:	-
Includes:	-
Special Requirements:	-
Assumptions:	User must be connected to the internet.
Notes and Issues:	-

Use Case ID:	UC016		
Use Case Name:	View Quiz Results		
Created By:	Melissa Ng	Last Updated By:	Choo Jin Cheng
Date Created:	8/9/2022	Date Last Updated:	10/11/2022
Actor:	CentreAdmin (Initiating Actor), Database		
Description:	The centreadmin views the list of evaluation results of their enrolled students.		
Preconditions:	CentreAdmin is logged in.		
Postconditions:	The selected student's evaluation quiz results will be displayed.		
Priority:	Low		
Frequency of Use:	Occasionally		

Flow of Events:		
	Actor Steps	System Steps
	1. The centreadmin clicks on “Student Evaluation Results”.	2. The centreadmin directs the user to the evaluation results page. 3. The system retrieves the information about the completed quizzes from the database. 4. The system will display the evaluation id, child name, parent name, and the view action.
	5. The centreadmin is able to click on any row of their choice.	6. The system retrieves the information about that selected evaluation quiz. 7. The system displays the information.
	8. The centreadmin can click on the “Close” button to close the quiz result.	9. The system closes the display box.
Alternative Flows:	<p>AF-S4: If the system doesn't find any records yet.</p> <ol style="list-style-type: none"> 1. The system will display no records. <p>AF-S8: If the centreadmin clicks on anywhere outside of the modal box.</p> <ol style="list-style-type: none"> 1. The system will still close the display box. 	
Exceptions:	-	
Includes:	-	

Special Requirements:	-
Assumptions:	<ol style="list-style-type: none"> 1. The centreadmin must be connected to the internet. 2. Parents who completed the quiz have their children enrolled into one of the centre admin's centre.
Notes and Issues:	There need not be any evaluation quiz completed prior to the use case.

Use Case ID:	UC017		
Use Case Name:	Schedule Childcare Visits		
Created By:	Choo Jin Cheng	Last Updated By:	Choo Jin Cheng
Date Created:	31/10/2022	Date Last Updated:	10/11/2022
Actor:	Parent (Initiating Actor), Database		
Description:	The parent will be able to schedule a appointment for a day-visit to a selected centre		
Preconditions:	<ol style="list-style-type: none"> 1. Parent must be logged into the system 2. Parent have selected a centre from the centre listing 3. Parent does not have existing appointment with the selected centre 		
Postconditions:	Parent will have a existing appointment entry recorded with the selected centre		
Priority:	Low		
Frequency of Use:	1 - 3 times a month		

Flow of Events:	<table border="1"> <thead> <tr> <th>Actor Steps</th><th>System Steps</th></tr> </thead> <tbody> <tr> <td> 2. Parent select the option for scheduling a childcare visit. 3. Parent proceeds to select a valid date and time for the input </td><td> 1. The system validates with the database for any existing appointment with the parent </td></tr> </tbody> </table>		Actor Steps	System Steps	2. Parent select the option for scheduling a childcare visit. 3. Parent proceeds to select a valid date and time for the input	1. The system validates with the database for any existing appointment with the parent
Actor Steps	System Steps					
2. Parent select the option for scheduling a childcare visit. 3. Parent proceeds to select a valid date and time for the input	1. The system validates with the database for any existing appointment with the parent					
	4. The system takes in the date, time and creates a new record in the database with the "pending" status. 5. The system returns a successful message once the record is successfully recorded					
Alternative Flows:	AF-S1: Parent have existing appointment with selected centre 1. System disables the option for scheduling a appointment 2. Parent will not be able to schedule for new appointment AF-S4: System fails to create record in database 1. System displays "Schedule unsuccessful" 2. System returns to step 3					
Exceptions:	-					
Includes:	-					
Special Requirements:	-					
Assumptions:	1. User must be connected to the internet. 2. User require more information that cannot be obtained on our					

	website to further aid their decision making
Notes and Issues:	-

Use Case ID:	UC018						
Use Case Name:	View Scheduled Visits						
Created By:	Choo Jin Cheng	Last Updated By:	Choo Jin Cheng				
Date Created:	31/10/2022	Date Last Updated:	10/11/2022				
Actor:	Parent (Initiating Actor), Database						
Description:	Parent can view a list of their appointments with any centre						
Preconditions:	1. Invocation as an extend use case by UC017 — Schedule Childcare Visits. 2. Parent must be logged in 3. Parent have an existing appointment with any centre						
Postconditions:	List of the parent's appointment will be displayed						
Priority:	Low						
Frequency of Use:	2 - 3 times a week						
Flow of Events:	<table border="1"> <thead> <tr> <th>Actor Steps</th> <th>System Steps</th> </tr> </thead> <tbody> <tr> <td>1. Parent to select the option to view schedule</td> <td>2. The system directs parent to the view schedule page 3. The system will update all "confirmed" appointment</td> </tr> </tbody> </table>			Actor Steps	System Steps	1. Parent to select the option to view schedule	2. The system directs parent to the view schedule page 3. The system will update all "confirmed" appointment
Actor Steps	System Steps						
1. Parent to select the option to view schedule	2. The system directs parent to the view schedule page 3. The system will update all "confirmed" appointment						

		<p>to “fulfilled” if the appointment date has passed the current date</p> <p>4. The system will update all “pending” appointment to “expired” if the appointment date has passed the current date</p> <p>5. The system retrieves a list of the parent’s appointment records from the database</p> <p>6. The system displays the appointment information in the form of a table along with options for the parents to take for each individual appointment</p>
Alternative Flows:	<p>AF-S5: System did not obtain any records from the database</p> <p>1. System displays “You currently have 0 scheduled day-visit for any centres!”.</p>	
Exceptions:	-	
Includes:	-	
Special Requirements:	-	
Assumptions:	<p>1. User must be connected to the internet.</p> <p>2. User have at least made a single appointment with any of the centres</p>	
Notes and Issues:	-	

Use Case ID:	UC019						
Use Case Name:	Update Scheduled Visits						
Created By:	Choo Jin Cheng	Last Updated By:	Choo Jin Cheng				
Date Created:	31/10/2022	Date Last Updated:	31/10/2022				
Actor:	Parent (Initiating Actor), Database						
Description:	Parent can change their appointment date with the centre						
Preconditions:	1. Invocation as an extend use case by UC016 — Schedule Childcare Visits. 2. Parent must be logged in 3. Parent have an existing appointment with any centre 4. The centre has yet to confirm the appointment						
Postconditions:	Parent's new input of date and time for the selected appointment will be updated in the database						
Priority:	Low						
Frequency of Use:	1 - 2 times a month						
Flow of Events:	<table border="1"> <thead> <tr> <th>Actor Steps</th> <th>System Steps</th> </tr> </thead> <tbody> <tr> <td>1. Parent selects the appointment's option "Change" displayed by UC016 — View Scheduled Visits use case</td> <td>2. System prompts parent to enter the new inputs for date and time</td> </tr> </tbody> </table>			Actor Steps	System Steps	1. Parent selects the appointment's option "Change" displayed by UC016 — View Scheduled Visits use case	2. System prompts parent to enter the new inputs for date and time
Actor Steps	System Steps						
1. Parent selects the appointment's option "Change" displayed by UC016 — View Scheduled Visits use case	2. System prompts parent to enter the new inputs for date and time						

	<p>3. Parent selects the new date and time and press submit</p> <p>4. The system takes in the new date, time and updates the existing record in the database.</p> <p>5. System returns a successful message if the update of records was successful</p> <p>6. System retrieve the list of updated centre's appointment and display it to the admin</p>
Alternative Flows:	<p>AF-S3: System fails to update the new input into the database</p> <ol style="list-style-type: none"> 1. System displays "Status update unsuccessful" 2. System returns to step 1
Exceptions:	-
Includes:	-
Special Requirements:	-
Assumptions:	<ol style="list-style-type: none"> 1. User must be connected to the internet. 2. User could not make it for the upcoming day-visit appointment
Notes and Issues:	-

Use Case ID:	UC020
Use Case Name:	Cancel Scheduled Visits

Created By:	Choo Jin Cheng	Last Updated By:	Choo Jin Cheng				
Date Created:	31/10/2022	Date Last Updated:	31/10/2022				
Actor:	Parent (Initiating Actor), Database						
Description:	Parent can cancel any existing appointments with any centre						
Preconditions:	1. Invocation as an extend use case by Schedule Childcare Visits. 2. Parent must be logged in 3. Parent have an existing appointment with any centre						
Postconditions:	Parent appointment will be cancelled and updated into the database						
Priority:	Low						
Frequency of Use:	1 time a month						
Flow of Events:	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; padding: 5px;">Actor Steps</th> <th style="text-align: center; padding: 5px;">System Steps</th> </tr> </thead> <tbody> <tr> <td style="padding: 10px;"> 1. Parent selects the appointment's option "Cancel" displayed by UC016 — View Scheduled Visits use case. </td><td style="padding: 10px;"> 2. The system proceeds to update the "cancelled" status into the existing record in the database. 3. System returns a successful message if the update of records was successful. 4. System retrieves the list of updated centre's appointments and displays it to the admin. </td></tr> </tbody> </table>			Actor Steps	System Steps	1. Parent selects the appointment's option "Cancel" displayed by UC016 — View Scheduled Visits use case.	2. The system proceeds to update the "cancelled" status into the existing record in the database. 3. System returns a successful message if the update of records was successful. 4. System retrieves the list of updated centre's appointments and displays it to the admin.
Actor Steps	System Steps						
1. Parent selects the appointment's option "Cancel" displayed by UC016 — View Scheduled Visits use case.	2. The system proceeds to update the "cancelled" status into the existing record in the database. 3. System returns a successful message if the update of records was successful. 4. System retrieves the list of updated centre's appointments and displays it to the admin.						

Alternative Flows:	<p>AF-S2: System fails to update the new input into the database</p> <ol style="list-style-type: none"> 1. System displays “Status update unsuccessful” 2. System returns to step 1
Exceptions:	-
Includes:	-
Special Requirements:	-
Assumptions:	<ol style="list-style-type: none"> 1. User must be connected to the internet. 2. User do not want to attend the day-visit
Notes and Issues:	-

Use Case ID:	UC021		
Use Case Name:	View Childcare Visits		
Created By:	Choo Jin Cheng	Last Updated By:	Choo Jin Cheng
Date Created:	31/10/2022	Date Last Updated:	10/11/2022
Actor:	Childcare Admin (Initiating Actor), Database		
Description:	Childcare Admin can view a list of appointments for all the centres that is under the admin management		
Preconditions:	<ol style="list-style-type: none"> 1. Childcare Admin must be logged in 2. Relevant centres must have applicants for day-visit appointment 		
Postconditions:	List of the centre's appointment will be displayed		

Priority:	Low					
Frequency of Use:	5 - 6 times a week					
Flow of Events:	<table border="1"> <thead> <tr> <th>Actor Steps</th><th>System Steps</th></tr> </thead> <tbody> <tr> <td>1. Childcare Admin to select the option to manage appointments</td><td> 2. The system directs Childcare Admin to the view appointments page 3. The system will update all "confirmed" appointment to "fulfilled" if the appointment date has passed the current date 4. The system will update all "pending" appointment to "expired" if the appointment date has passed the current date 5. The system retrieves a list of relevant centre's appointment records that is managed by the current Childcare Admin 6. The system displays the appointment information in the form of a table along with options for the Childcare Admin to take for each individual centre's appointment </td></tr> </tbody> </table>		Actor Steps	System Steps	1. Childcare Admin to select the option to manage appointments	2. The system directs Childcare Admin to the view appointments page 3. The system will update all "confirmed" appointment to "fulfilled" if the appointment date has passed the current date 4. The system will update all "pending" appointment to "expired" if the appointment date has passed the current date 5. The system retrieves a list of relevant centre's appointment records that is managed by the current Childcare Admin 6. The system displays the appointment information in the form of a table along with options for the Childcare Admin to take for each individual centre's appointment
Actor Steps	System Steps					
1. Childcare Admin to select the option to manage appointments	2. The system directs Childcare Admin to the view appointments page 3. The system will update all "confirmed" appointment to "fulfilled" if the appointment date has passed the current date 4. The system will update all "pending" appointment to "expired" if the appointment date has passed the current date 5. The system retrieves a list of relevant centre's appointment records that is managed by the current Childcare Admin 6. The system displays the appointment information in the form of a table along with options for the Childcare Admin to take for each individual centre's appointment					
Alternative Flows:	AF-S5: System did not obtain any records from the database 1. System displays "You currently have 0 day-visit applicants for any centres".					

Exceptions:	-
Includes:	-
Special Requirements:	-
Assumptions:	<ol style="list-style-type: none"> 1. User must be connected to the internet. 2. User have registered the correct organization code.
Notes and Issues:	-

Use Case ID:	UC022		
Use Case Name:	Review Childcare Visits		
Created By:	Choo Jin Cheng	Last Updated By:	Choo Jin Cheng
Date Created:	31/10/2022	Date Last Updated:	31/10/2022
Actor:	Childcare Admin (Initiating Actor), Database		
Description:	The Childcare Admin will be able to approve, reject or cancel existing centre's appointments		
Preconditions:	<ol style="list-style-type: none"> 1. Invoked as an extend use case by UC021 — View Childcare Visits 2. Childcare Admin must be logged in 3. Relevant centres must have applicants for day-visit appointment 		
Postconditions:	All actions taken by the Childcare Admin will update the relevant appointment records in the database		

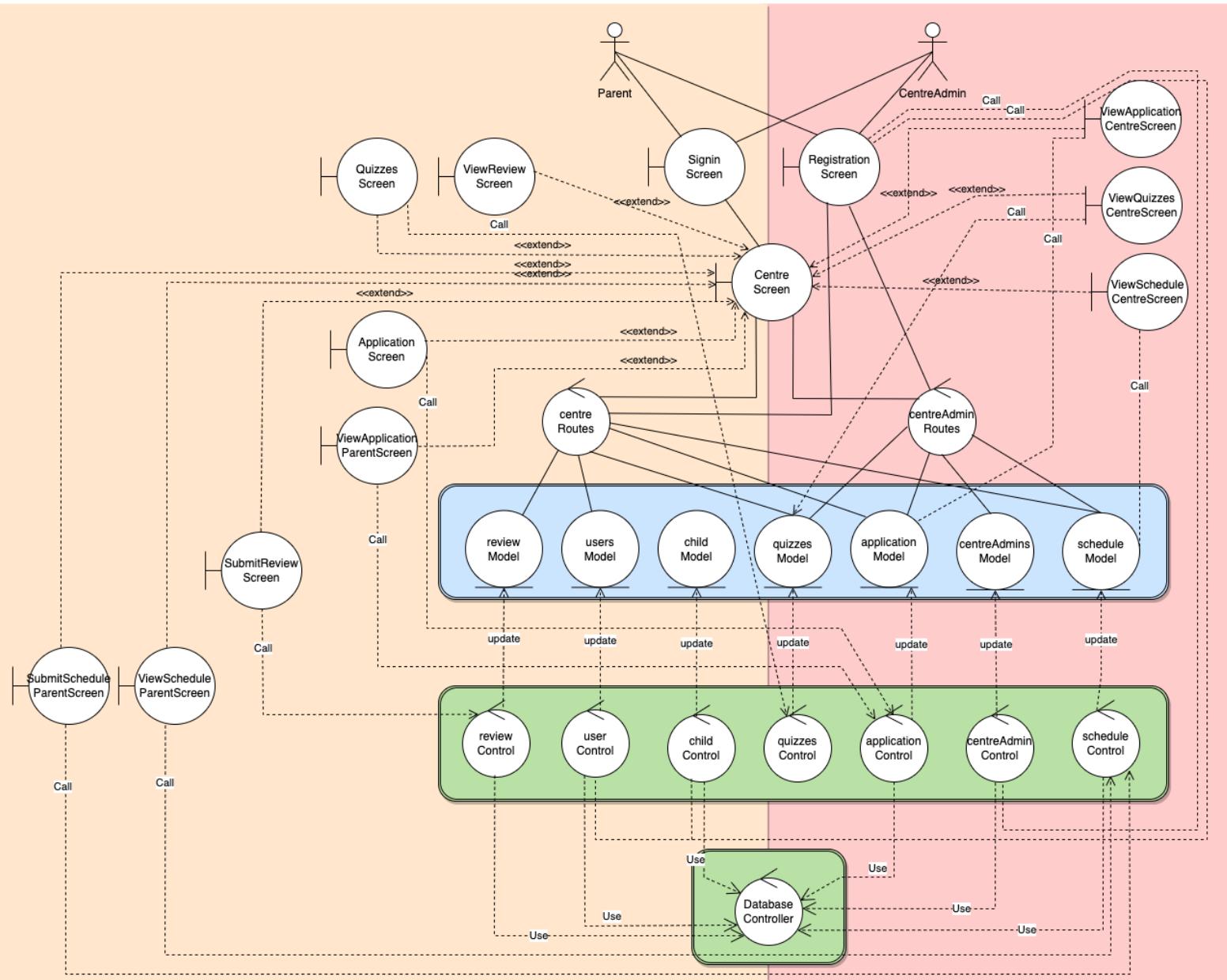
Priority:	Low					
Frequency of Use:	6 - 9 times a week					
Flow of Events:	<table border="1"> <thead> <tr> <th>Actor Steps</th><th>System Steps</th></tr> </thead> <tbody> <tr> <td>1. Childcare Admin selects approve/reject/cancel on a particular appointment displayed by UC021 — View Childcare Visits.</td><td> <p>2. The system proceeds to update the “approved”/“rejected”/“cancelled” status into the existing record in the database.</p> <p>3. System returns a successful message if the update of records was successful.</p> <p>4. System retrieves the list of updated centre’s appointments and displays it to the admin.</p> </td></tr> </tbody> </table>		Actor Steps	System Steps	1. Childcare Admin selects approve/reject/cancel on a particular appointment displayed by UC021 — View Childcare Visits.	<p>2. The system proceeds to update the “approved”/“rejected”/“cancelled” status into the existing record in the database.</p> <p>3. System returns a successful message if the update of records was successful.</p> <p>4. System retrieves the list of updated centre’s appointments and displays it to the admin.</p>
Actor Steps	System Steps					
1. Childcare Admin selects approve/reject/cancel on a particular appointment displayed by UC021 — View Childcare Visits.	<p>2. The system proceeds to update the “approved”/“rejected”/“cancelled” status into the existing record in the database.</p> <p>3. System returns a successful message if the update of records was successful.</p> <p>4. System retrieves the list of updated centre’s appointments and displays it to the admin.</p>					
Alternative Flows:	<p>AF-S2: System was not able to update the status</p> <ol style="list-style-type: none"> 1. System displays “Action unsuccessful” 2. System return to step 1 					
Exceptions:	-					
Includes:	-					
Special Requirements:	-					
Assumptions:	<ol style="list-style-type: none"> 1. User must be connected to the internet. 2. User have registered correctly for their organisation 					

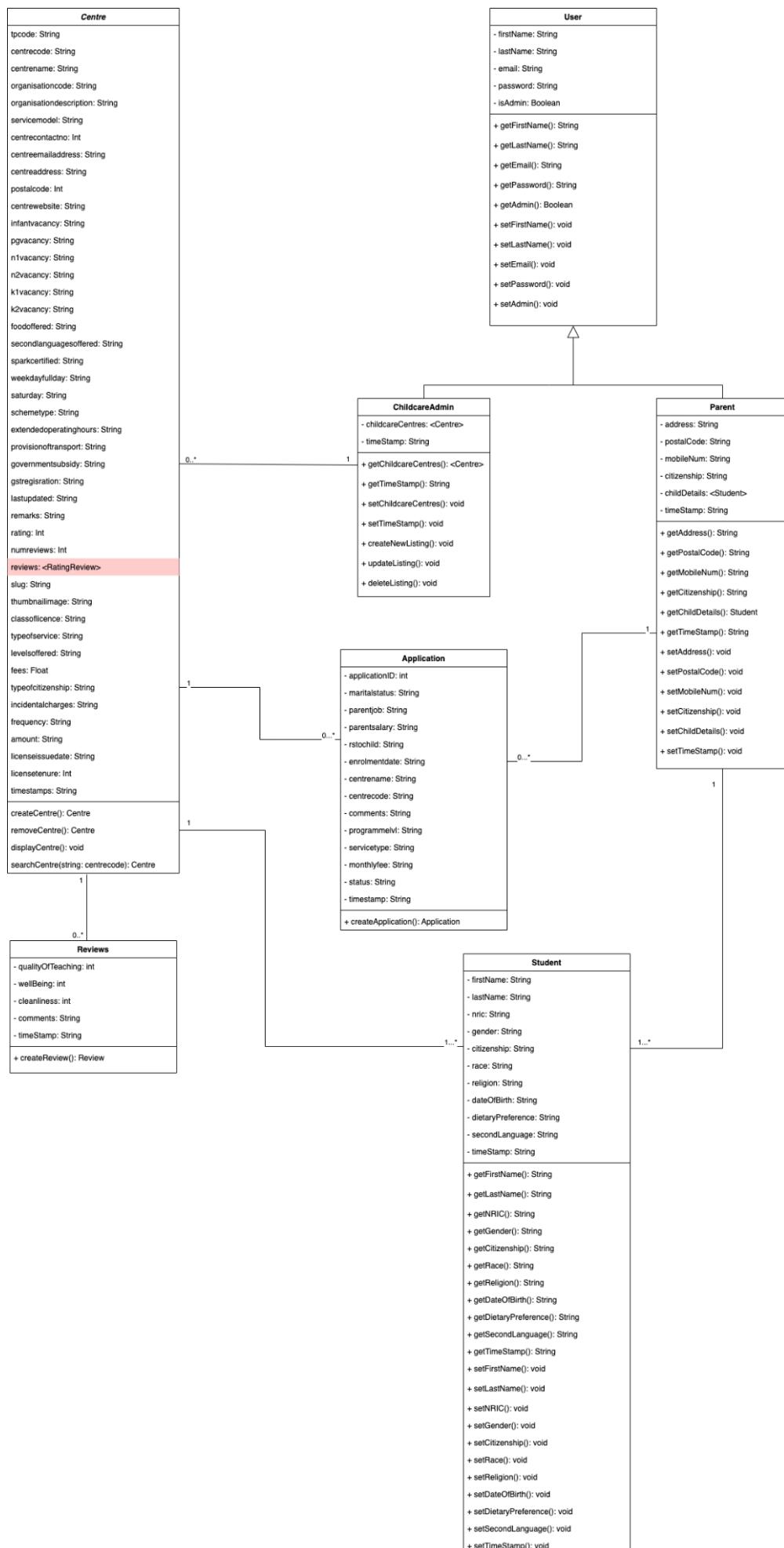
Notes and Issues:

-

7. Diagrams

7.1. Class Diagram

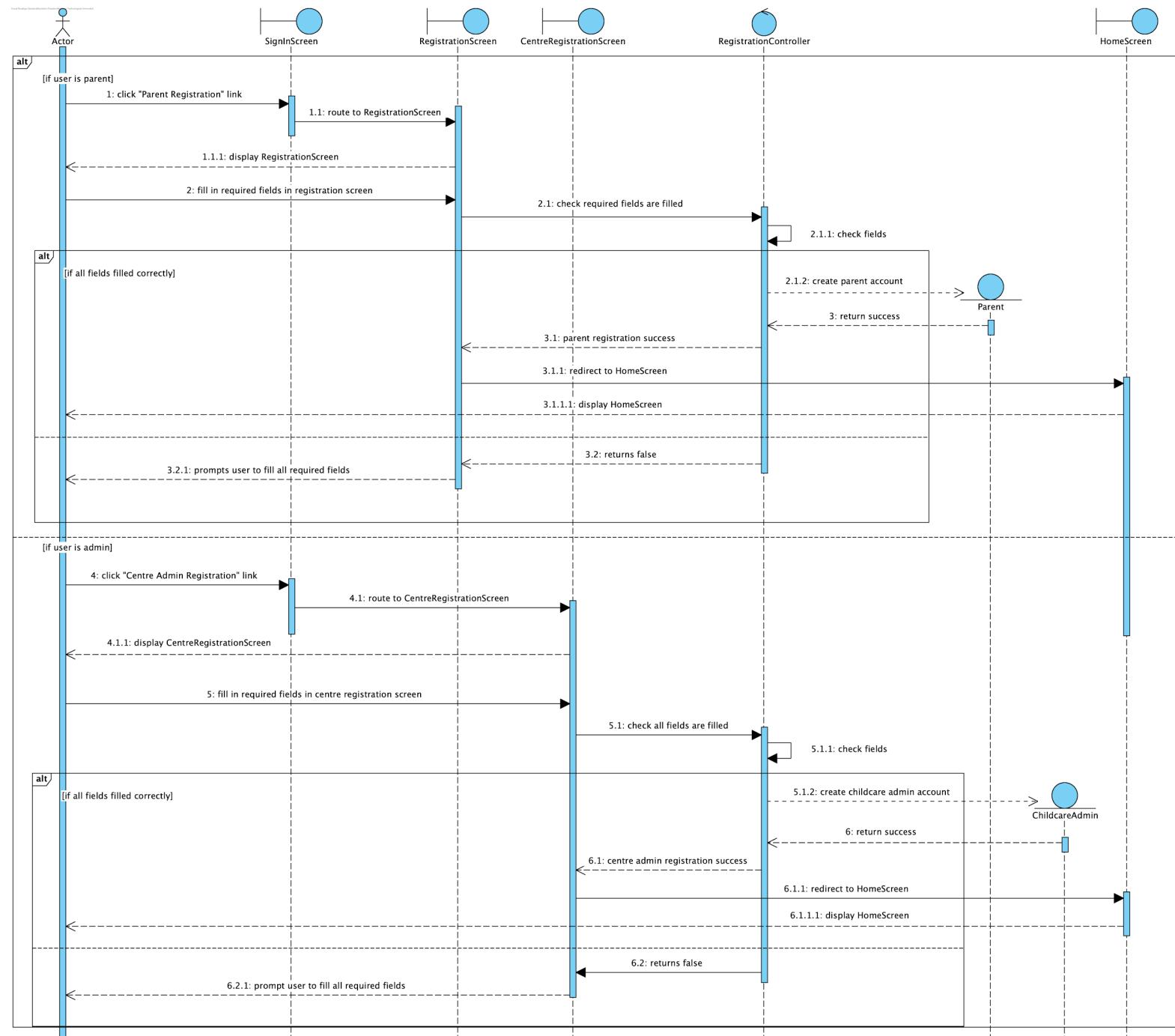




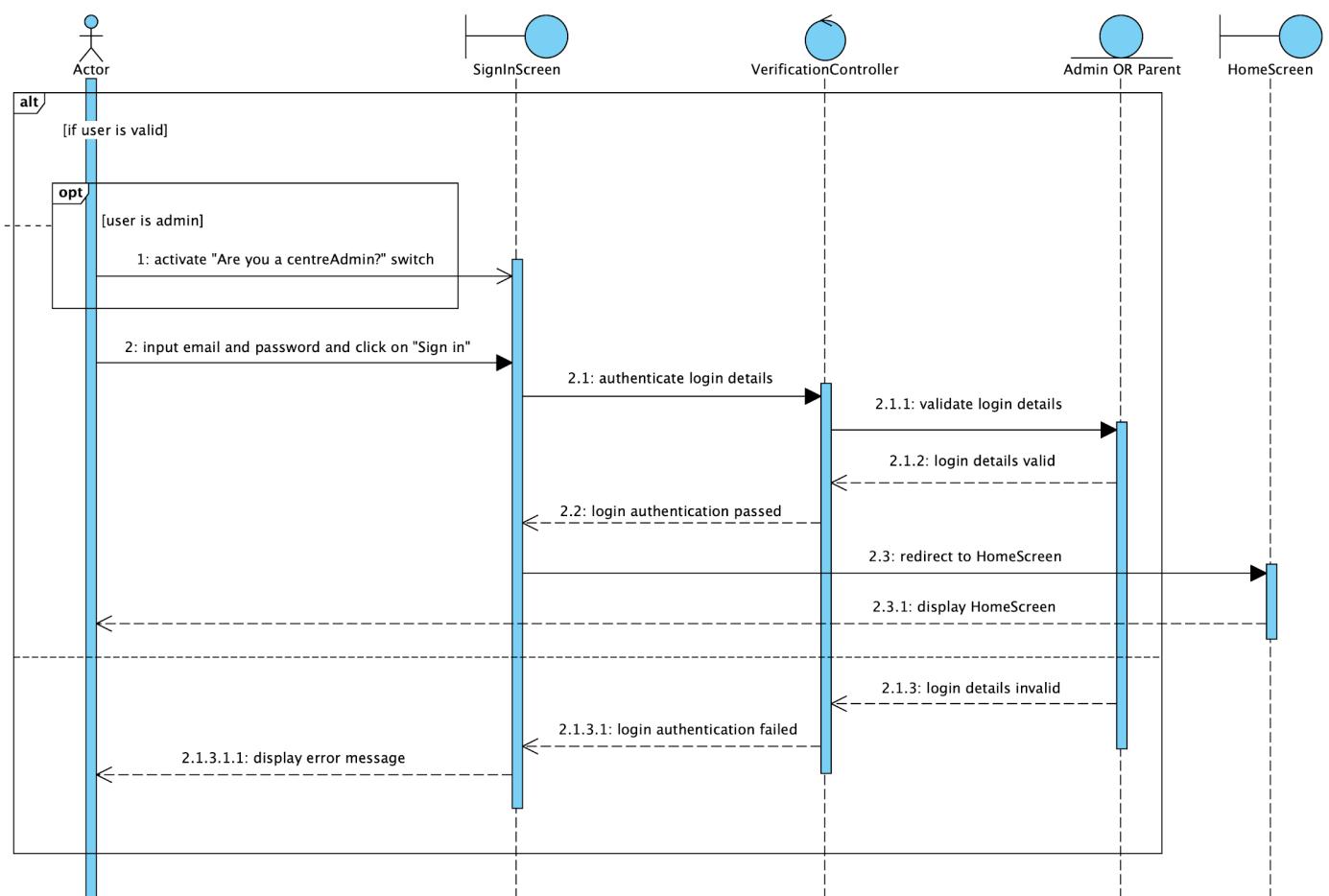
7.2. Sequence Diagrams

Some of the sequence diagrams for key use cases are displayed below.

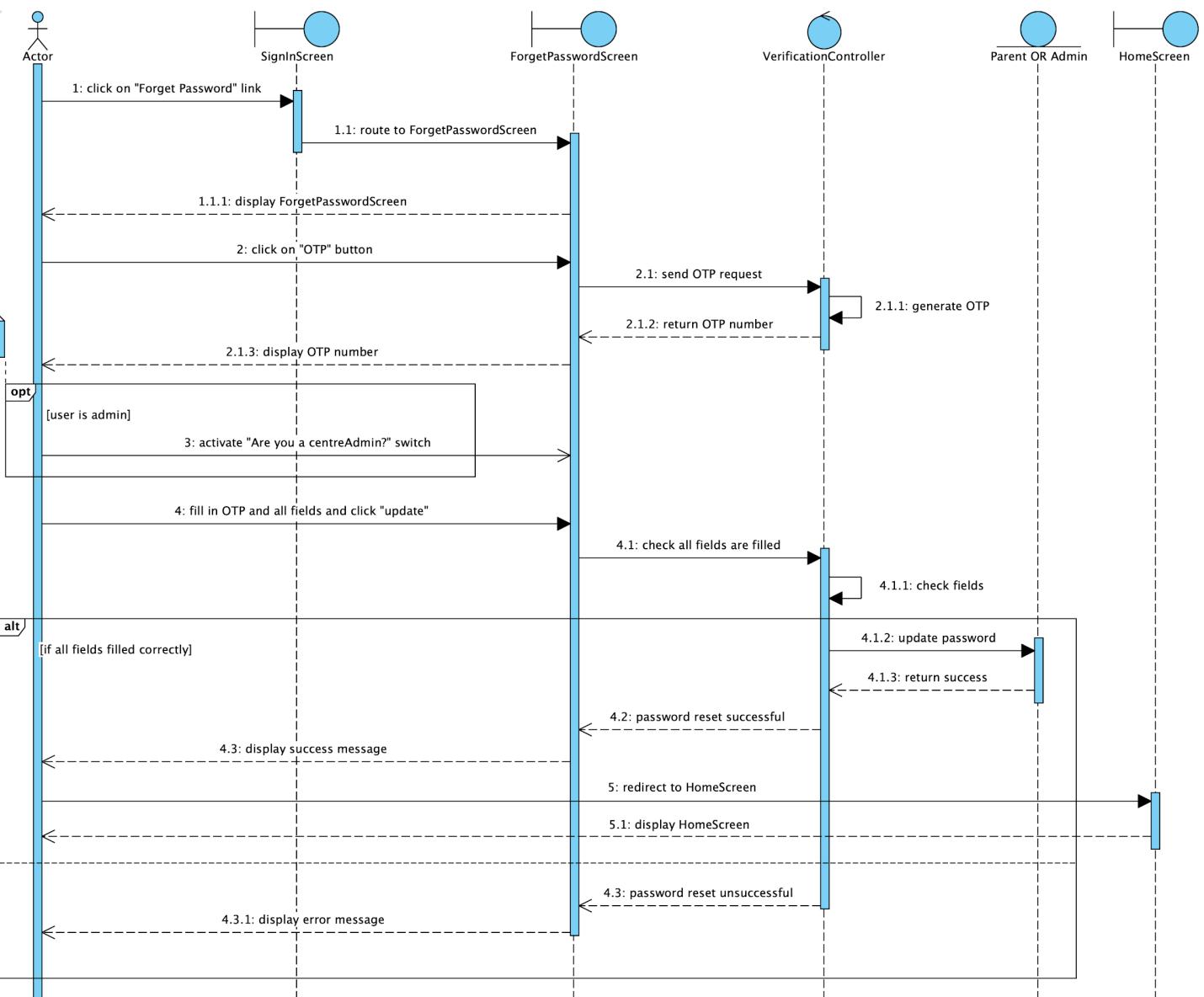
7.2.1. Parent and Admin Registration



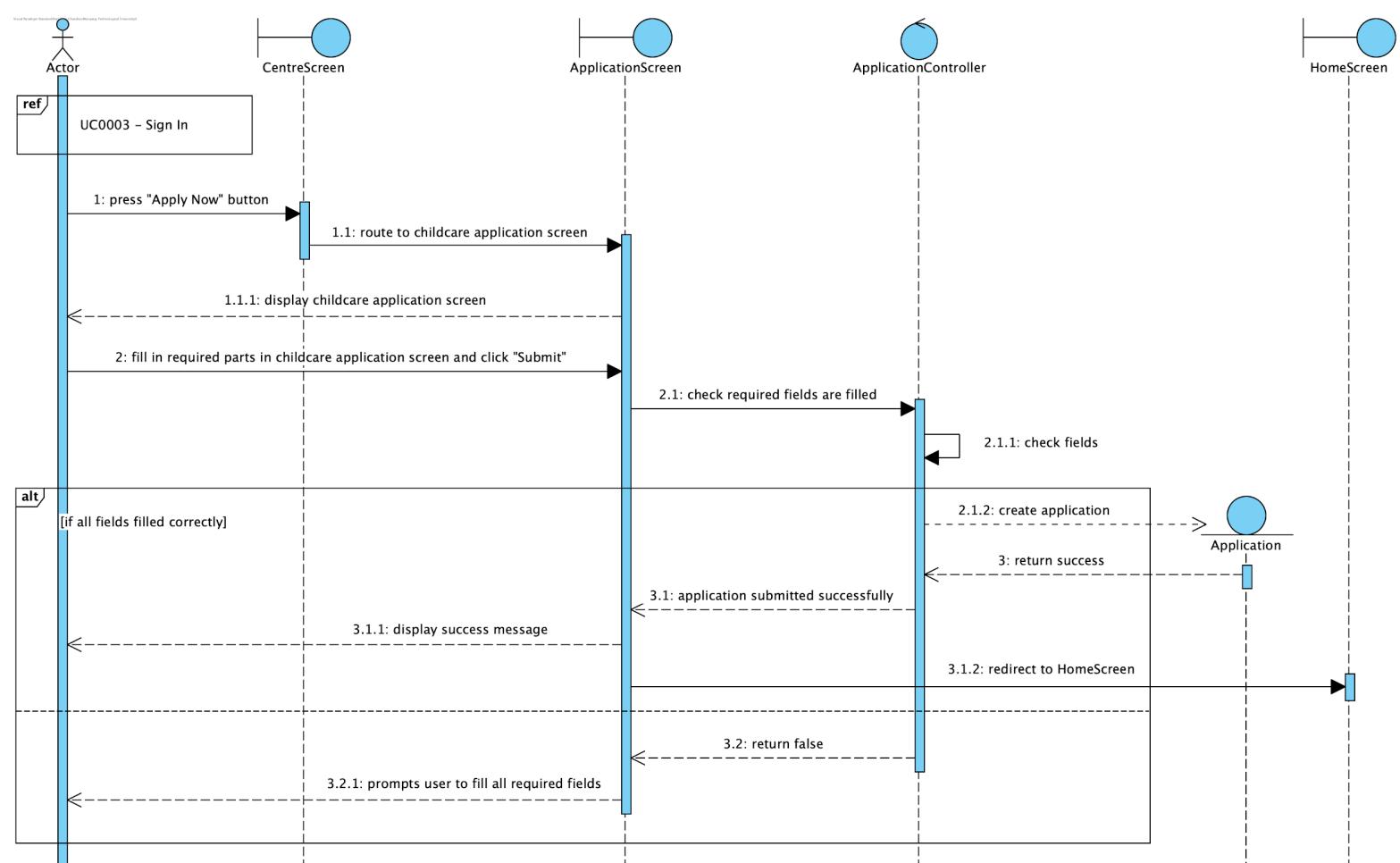
7.2.2. Login



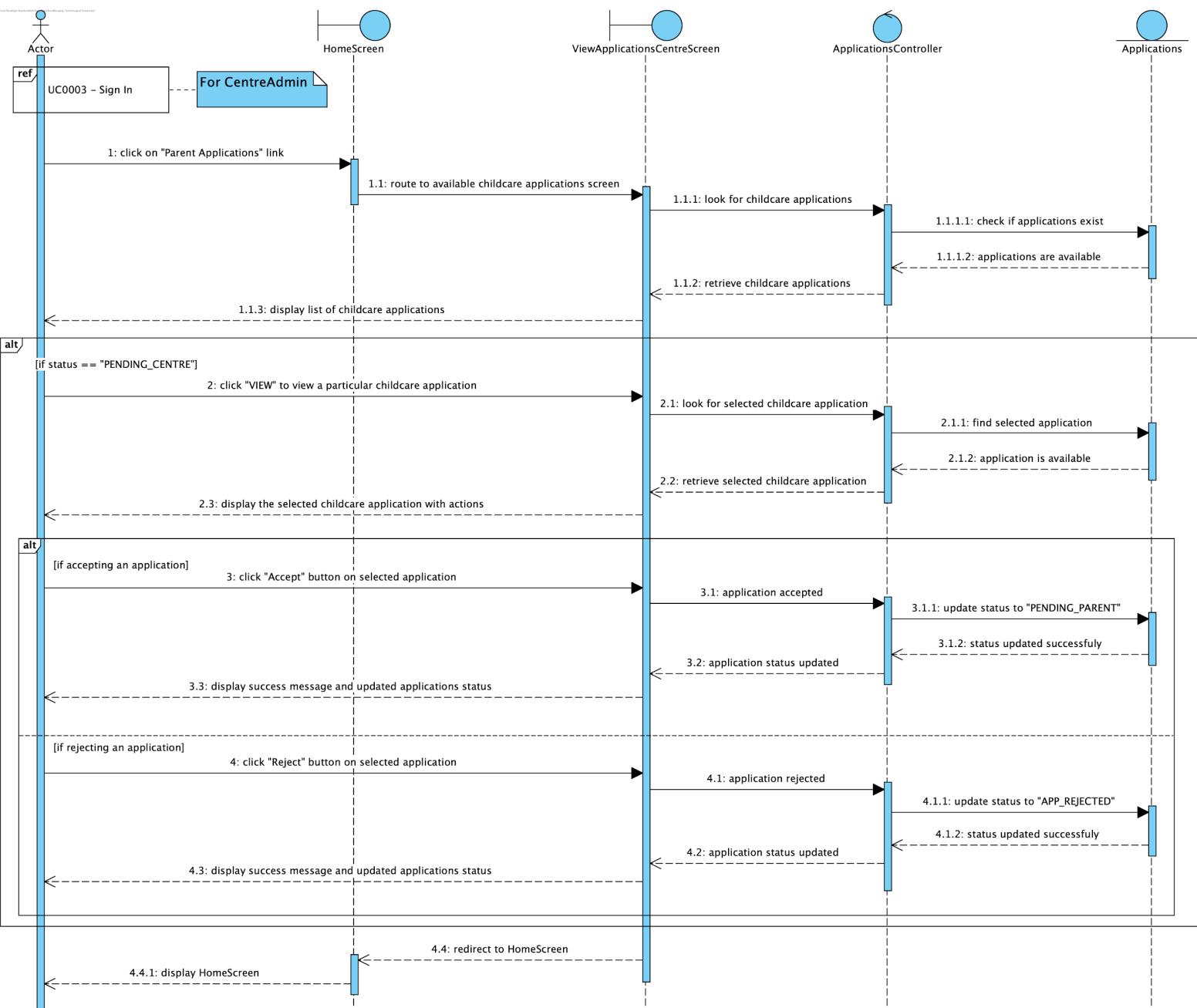
7.2.3. Forget Password



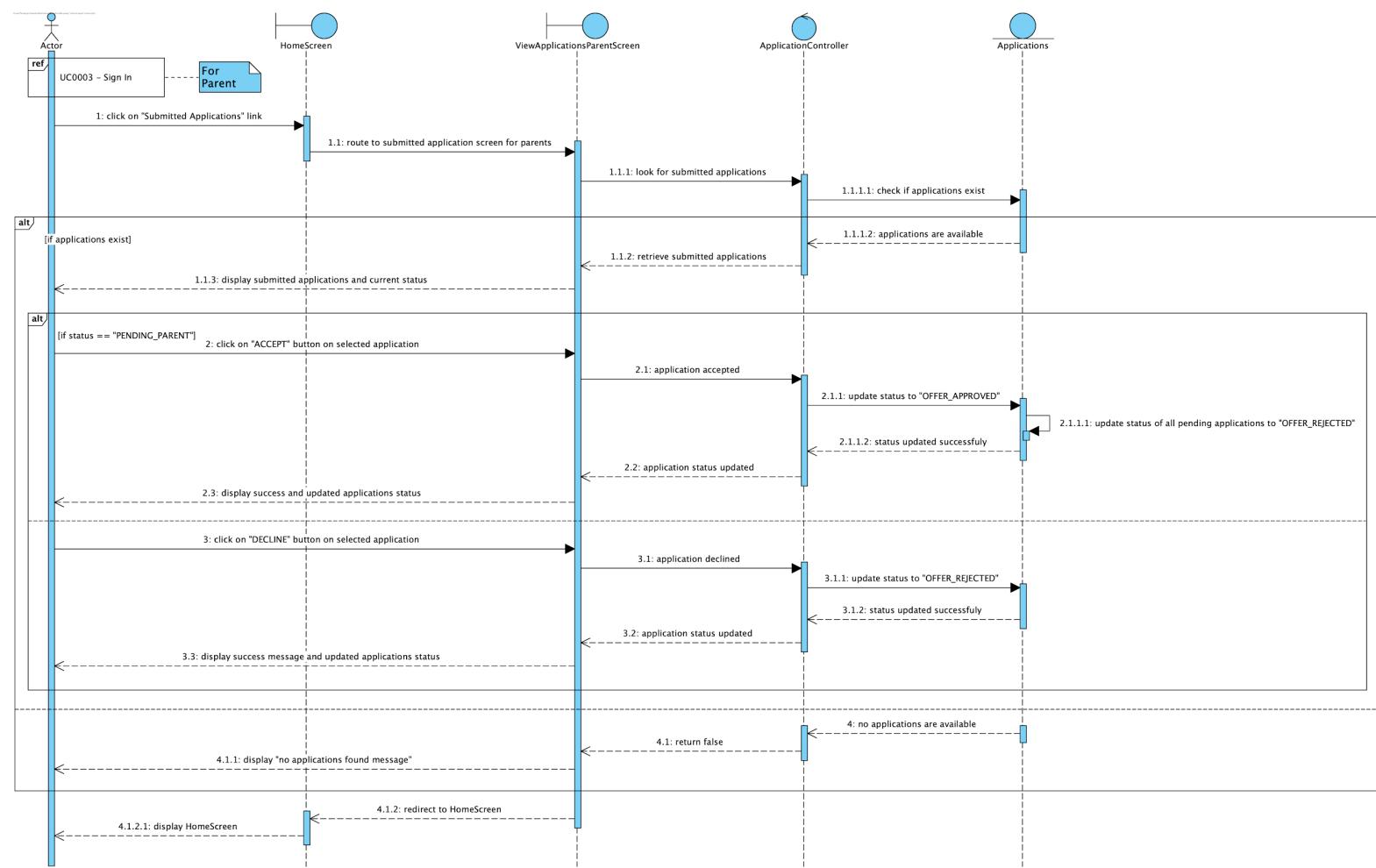
7.2.4. Submit Childcare Application



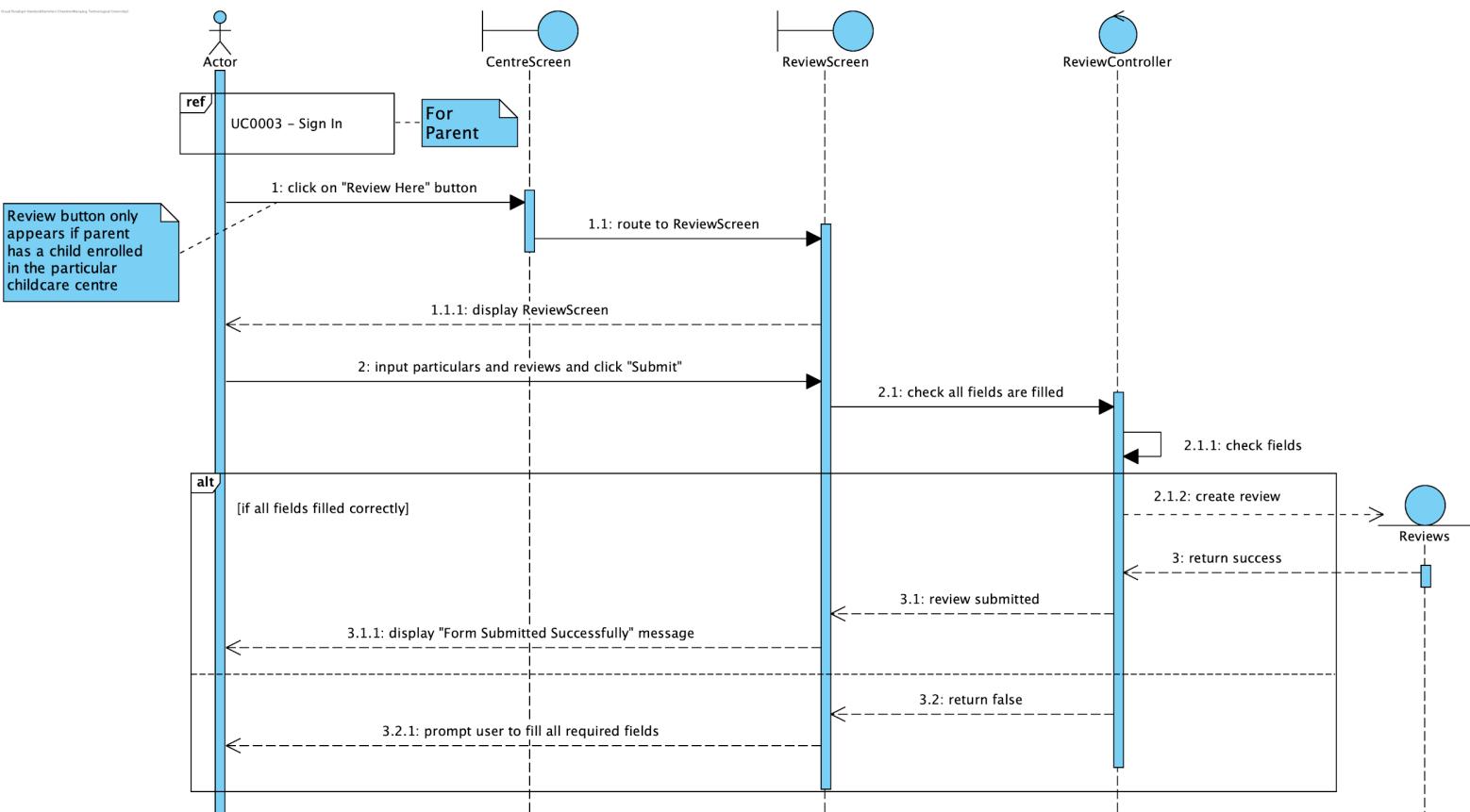
7.2.5. View Submitted Applications and Review Offer



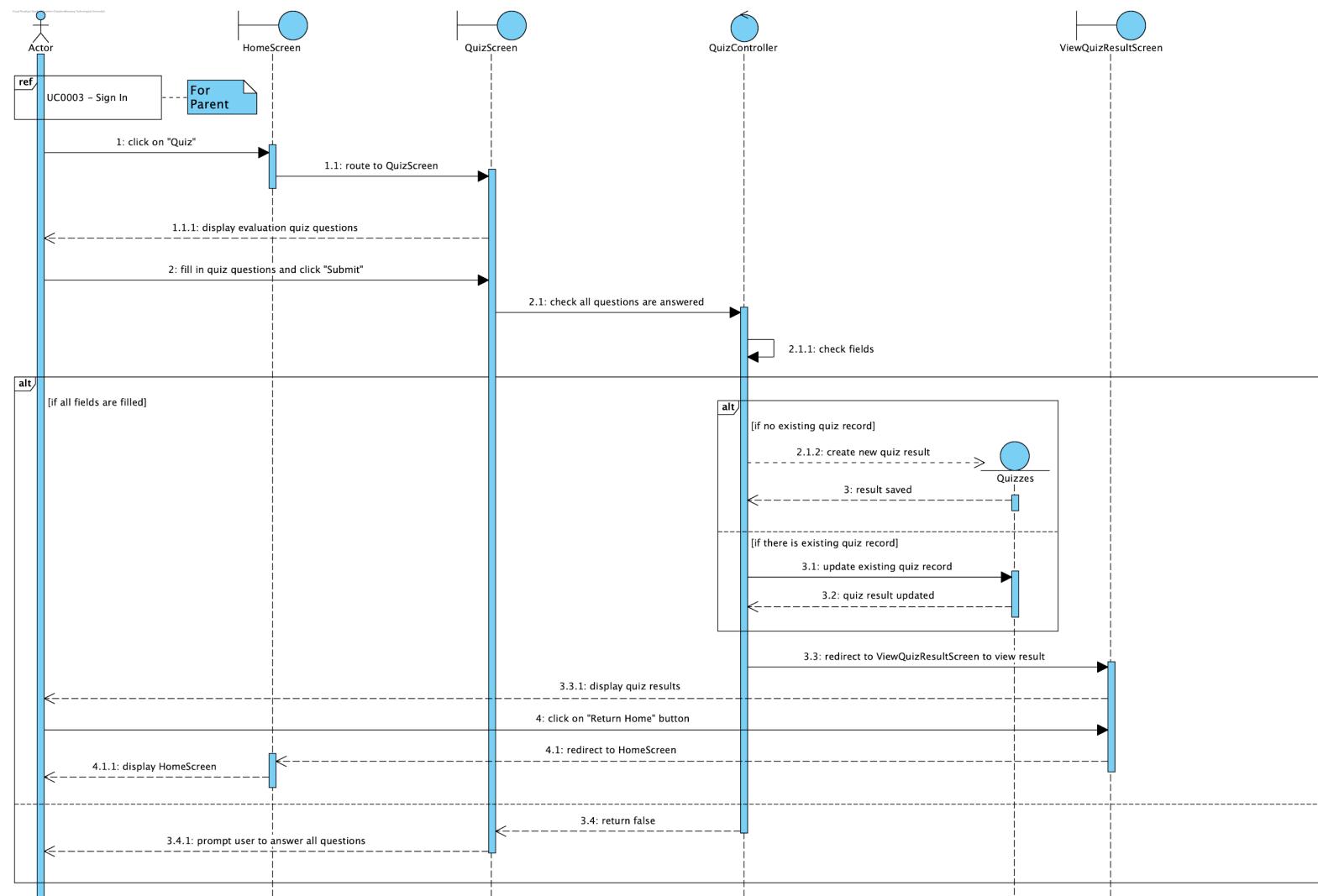
7.2.6. View and Review Childcare Applications



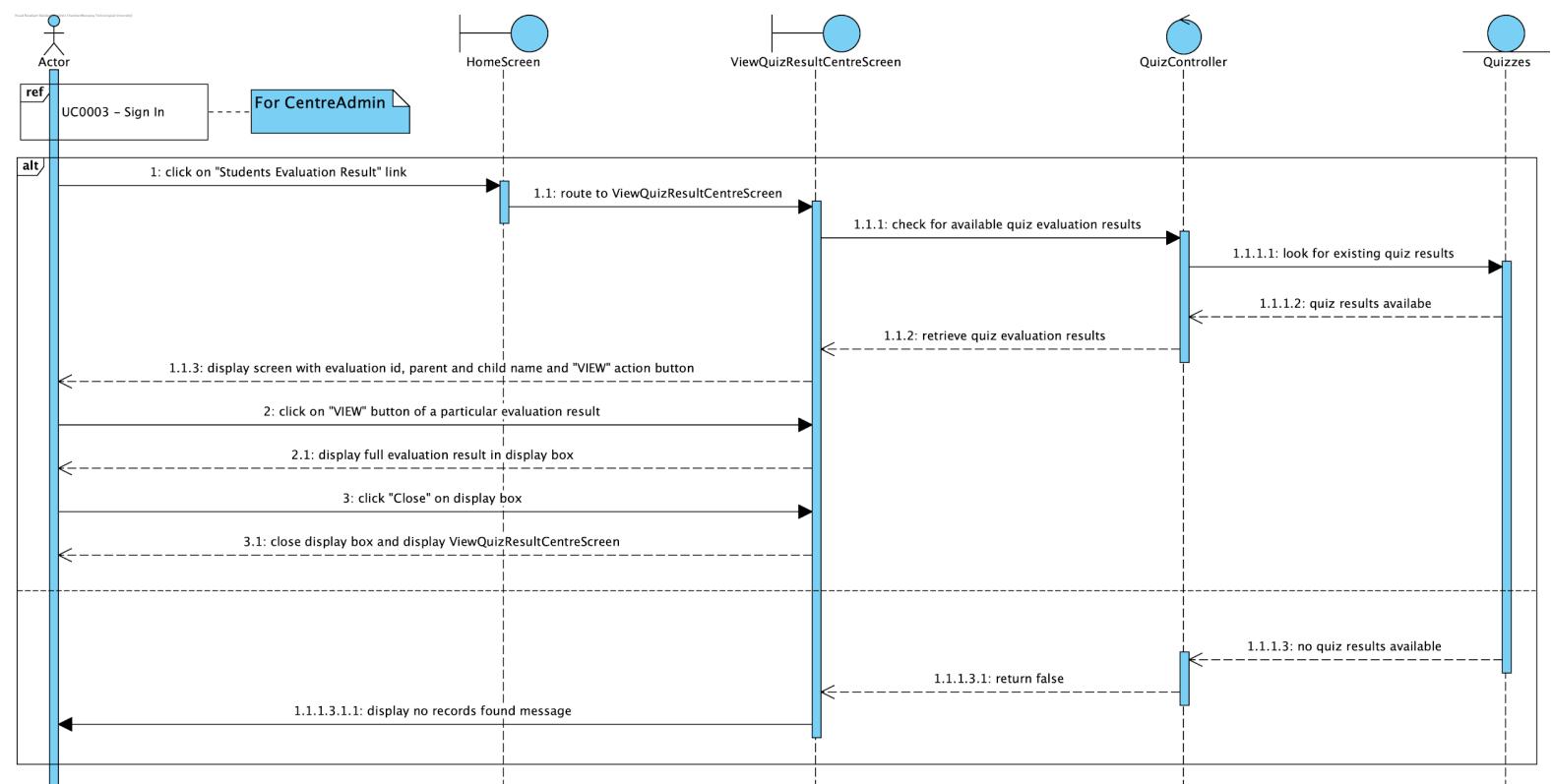
7.2.7. Submit Review of Childcare



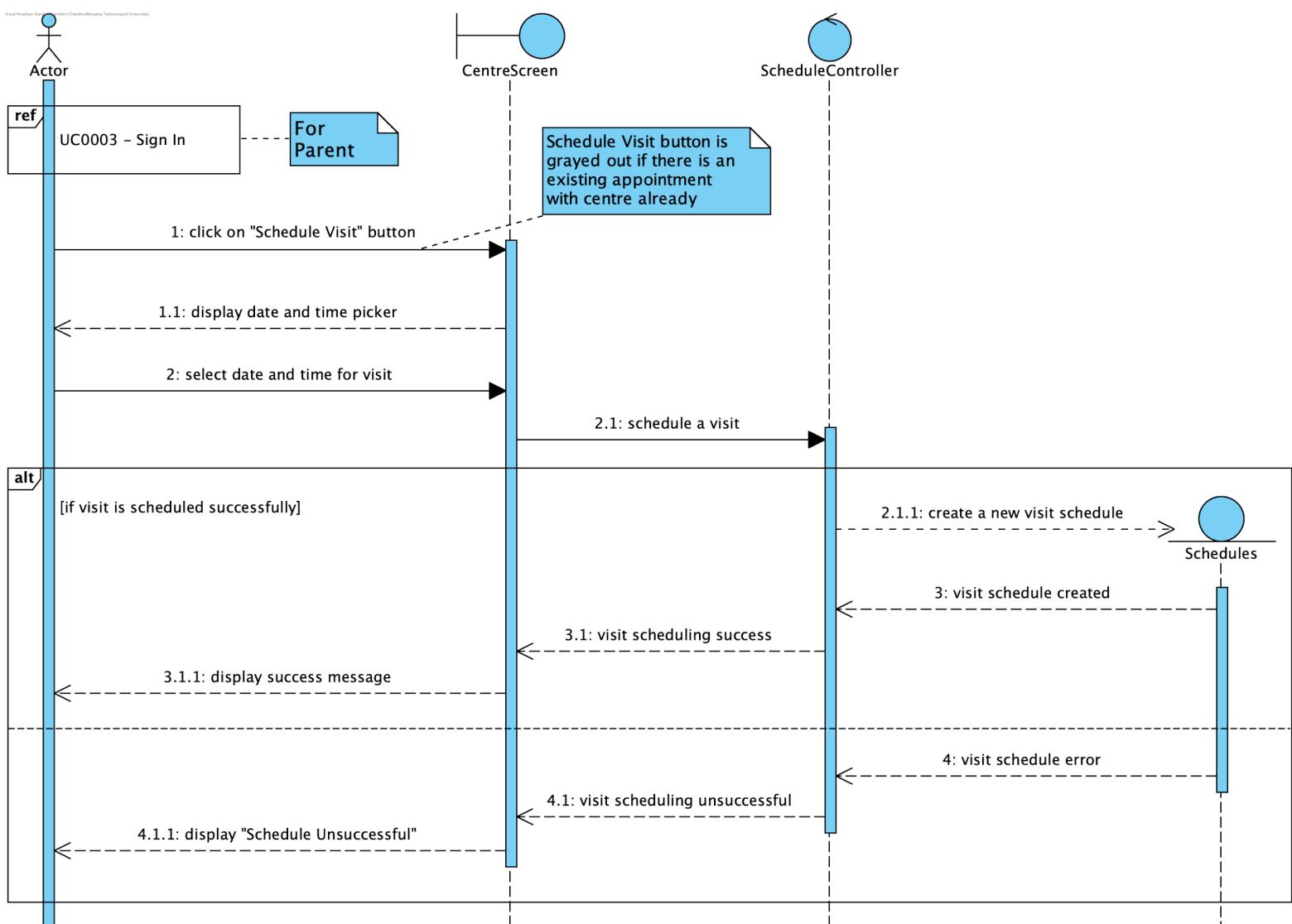
7.2.8. Attempt Evaluation Quiz



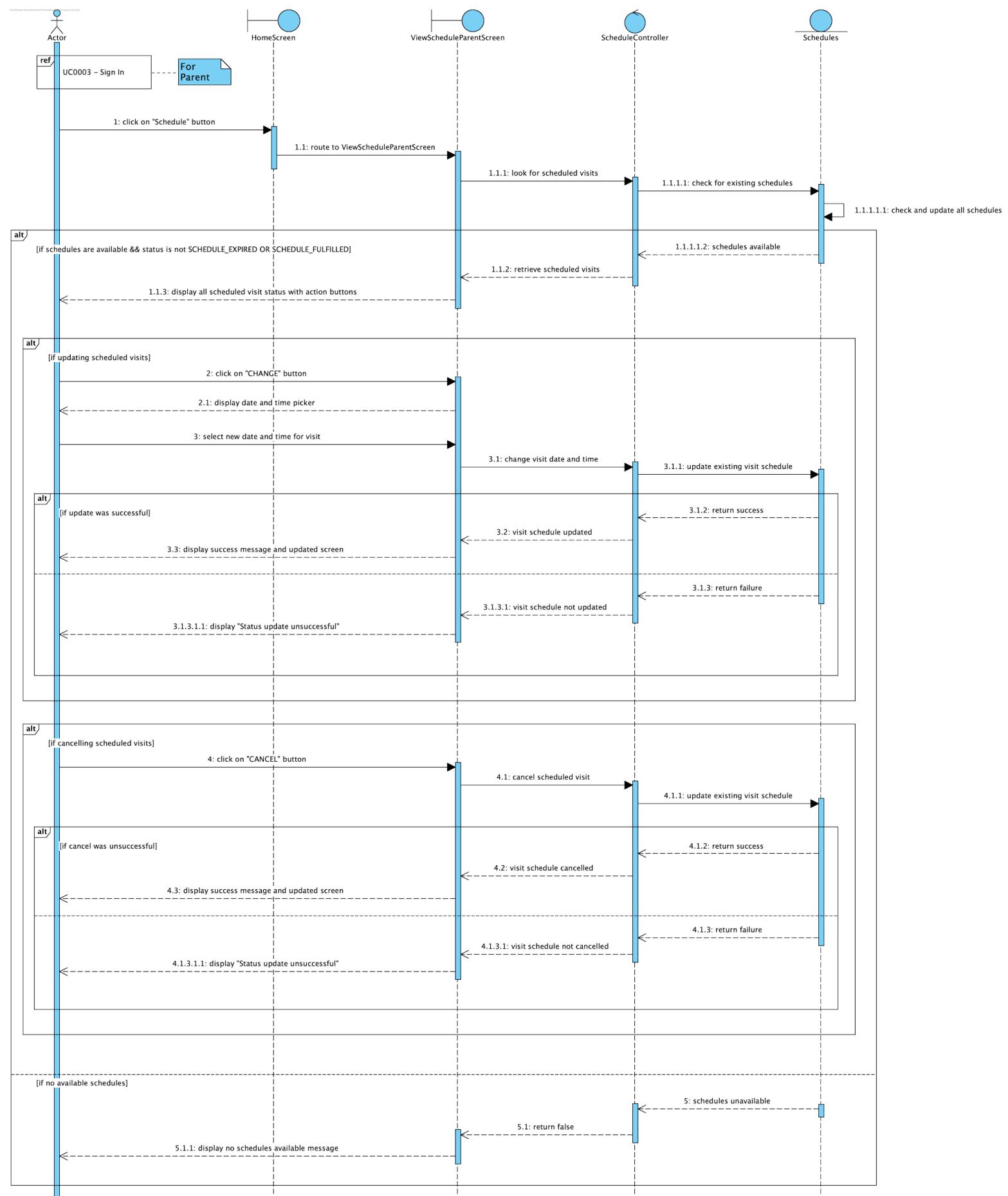
7.2.9. View Quiz Results



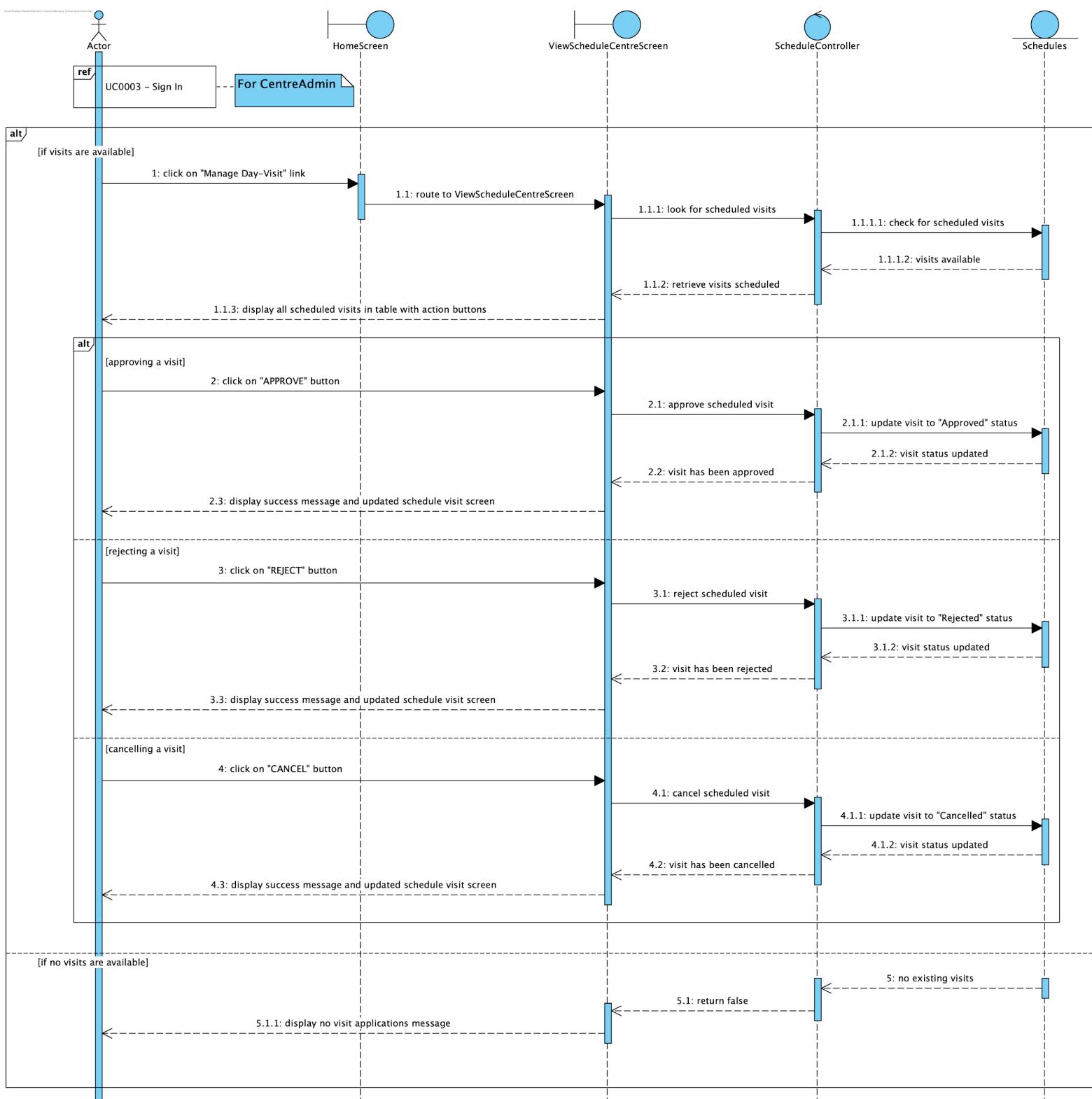
7.2.10. Schedule Childcare Visits



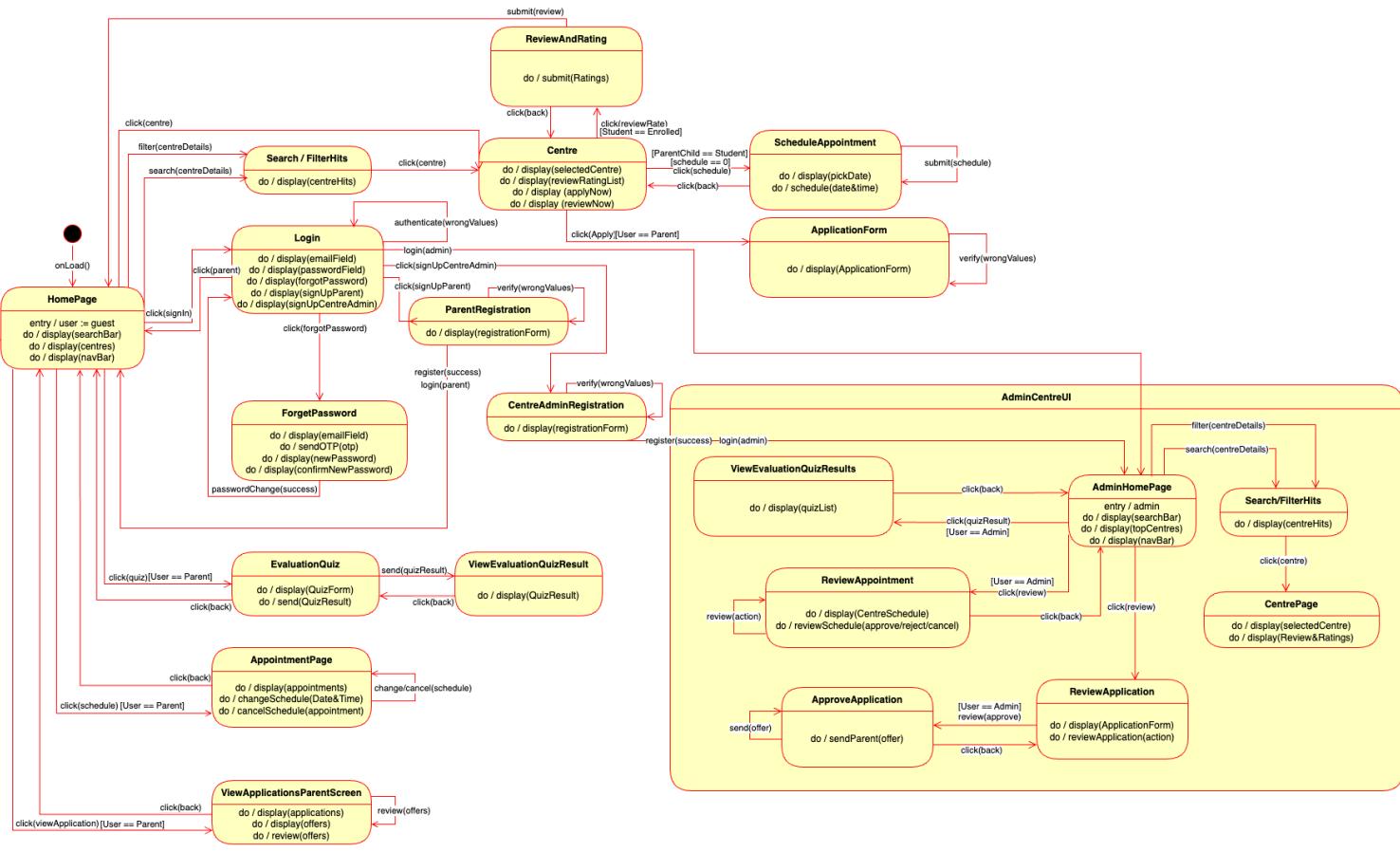
7.2.11. View/Update/Cancel Scheduled Visits



7.2.12. View and Review Childcare Visits



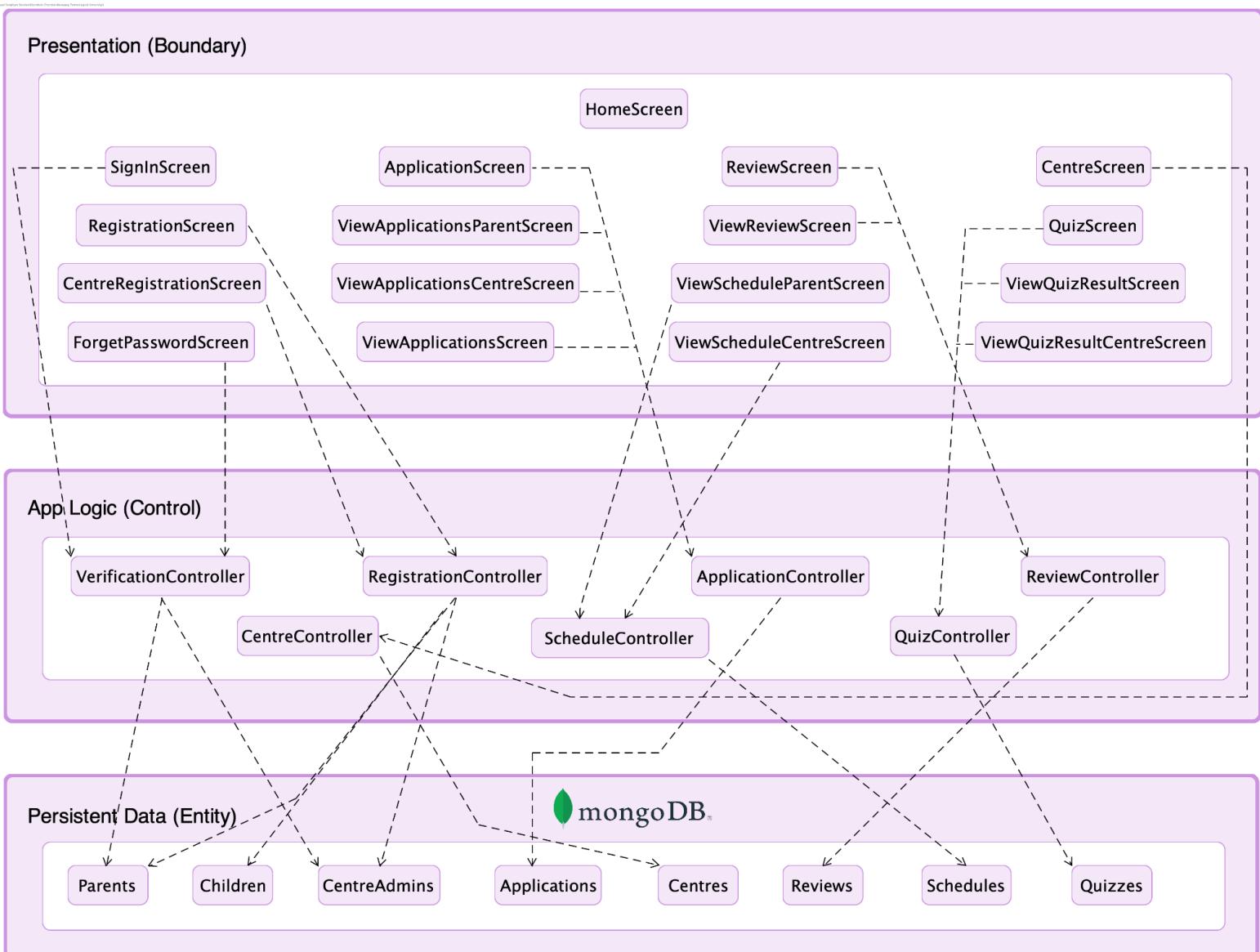
7.3. Dialog Map



*Note: User can exit at anytime by closing the tab, not only at the HomePage.

7.4. Architecture Diagram

The diagram shown below is a 3-layered system architecture diagram. The top-most layer is the presentation (or boundary) layer consisting of all the user interface (UI) elements. The UI interface includes all the different screens in which guest, user/parent and childcare admin can interact with. The middle layer is the app logic (or control) layer which helps to execute commands based on inputs and database responses. The bottom layer consists of the persistent data (or entity), which is the database that collects and stores all the information related to the web application.



8. Testing

8.1. Black Box Testing

User Account Registration

Test ID	Description	Test Vector	Expected Result	Actual Result
1	<u>Successful account registration</u> <ul style="list-style-type: none"> 1. Key in email in correct email format 2. Key in correct password format 3. Re-enter password == password from (2) 4. Enter valid SG address 5. Enter valid postal code 6. Enter valid phone number 	1. blackboxtest@gmail.com 2. BlackBoxTest101! 3. BlackBoxTest101! 4. - 5. 150081 6. 86697653	Successful account registration	Pass
2	<u>Unsuccessful account registration</u> <ul style="list-style-type: none"> - Password does not meet requirements (no uppercase) <p>Requirements:</p> <ul style="list-style-type: none"> - At least 1 Uppercase - At least 1 Lowercase - At least 1 Special Character - At least 1 digit 	1. blackboxtest@gmail.com 2. blackboxtest101 3. blackboxtest101 4. - 5. 150081 6. 86697653	'At least one uppercase' message Unsuccessful account registration; prompted to try again	Pass
3	<u>Unsuccessful account registration</u> <ul style="list-style-type: none"> - Postal code is not valid (not 6 digits) 	1. blackboxtest@gmail.com 2. BlackBoxTest101! 3. BlackBoxTest101! 4. - 5. 15081 6. 86697653	'Please enter a valid SG postal code' message Unsuccessful account registration; prompted to try again	Pass

4	<u>Unsuccessful account registration</u> - Re-enter password != password from (2)	1. blackboxtest@gmail.com 2. BlackBoxTest101! 3. BlackBoxTest100! 4. - 5. 150081 6. 86697653	'Confirm password is not matched' message Unsuccessful account registration; prompted to try again	Pass
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Log In

Test ID	Description	Test Vector	Expected Result	Actual Result
1	<u>Successful account login</u> 1. Key in correct email address 2. Key in correct password	1. blackboxtest@gmail.com 2. BlackBoxTest101!	Account logged into. Return to Home page	Pass
2	<u>Unsuccessful account login</u> 1. Key in correct email address 2. Key in wrong password	1. blackboxtest@gmail.com 2. BlackBoxTest100	'Invalid email or password' error message	Pass
3	<u>Unsuccessful account login</u> 1. Key in wrong email address 2. Key in correct password	1. blackboxtest@yahoo.co m 2. BlackBoxTest101	'Invalid email or password' error message	Pass

Forget Password

Test ID	Description	Test Vector	Expected Result	Actual Result
1	<u>Successful change of password</u>	1. Email: blackboxtest@gmail.com 2. OTP matches 3. Password: BlackBoxTesting101!	New password updated User directed to homepage	Pass

		4. Confirm Password: BlackBoxTesting101!		
2	<u>Unsuccessful change of password</u> Invalid email	1. Email: blackboxtest@gmail.com 2. OTP matches 3. Password: Blackboxtesting101! 4. Confirm Password: Blackboxtesting101!	'Please include an @ in the email address' error message	Pass
3	<u>Unsuccessful change of password</u> Password does not meet requirements	1. Email: blackboxtest@gmail.com 2. OTP matches 3. Password: blackboxtesting101! 4. Confirm Password: blackboxtesting101!	'At least one uppercase' message' error message	Pass
4	<u>Unsuccessful change of password</u> User does not exist	1. Email: blackboxtesting@gmail.com 2. OTP matches 3. Password: BlackBoxTesting101! 4. Confirm Password: BlackBoxTesting101!	'User not found' error message	Pass
5	<u>Unsuccessful change of password</u> Confirm password does not match	1. Email: blackboxtest@gmail.com 2. OTP matches 3. Password: BlackBoxTesting101! 4. Confirm Password: BlackBoxTesting102!	'Confirm password is not matched' error message	Pass

Rating and Reviews

Test ID	Description	Test Vector	Expected Result	Actual Result
1	<u>Successful Submission of Review</u> 1. Click review here button on centre info page 2. Input all required fields (full name, email, childcare centre name, ratings, review) 3. Submit Review	1. Full name: Woo Hao Rui 2. Email: HaoRui54@gmail.com 3. Childcare Centre: CARPE DIEM FIRST YEARS PTE LTD 4. Ratings: 5 for cleanliness 5. Ratings: 4 for teaching 6. Ratings: 5 for well-being 7. Feedback: "Amazing Centre!"	Return to home screen Review count increase by 1 after submission Review shown on centre info page	Pass
2	<u>Unsuccessful Submission of Review</u> Any of the field is empty	1. Full name: Woo Hao Rui 2. Email: HaoRui54@gmail.com 3. Childcare Centre: CARPE DIEM FIRST YEARS PTE LTD 4. Ratings: "Empty" 5. Ratings: 4 for teaching 6. Ratings: 5 for well-being 7. Feedback: "Amazing Centre!"	Show error message	Pass

Schedule Visits

Test ID	Description	Test Vector	Expected Result	Actual Result
	Parent-side			

1	<u>Successful scheduling</u> - Date: Within 30 days of current date - Time: within operating hours of childcare centre	1. Centre name: CARPE DIEM FIRST YEARS PTE LTD 2. Schedule Date: 17 Nov 3. Schedule Time: 2pm	“Successfully Scheduled” message	Pass
2	<u>Unsuccessful scheduling</u> Selecting a date later than one month from current date E.g. Current Date: 6 Nov 2022	1. Centre name: CARPE DIEM FIRST YEARS PTE LTD 2. Schedule Date: 15 Dec 3. Schedule Time: 2pm	Option is greyed out in Date/Time picker Unsuccessful scheduling	Pass
3	<u>Unsuccessful scheduling</u> Selecting a time not within operating hours of selected childcare E.g. Operating hours: 7am - 7pm	1. Centre name: CARPE DIEM FIRST YEARS PTE LTD 2. Schedule Date: 17 Nov 3. Schedule Time: 8pm	Option is greyed out in Date/Time picker Unsuccessful scheduling	Pass
4	<u>Successful change of scheduling</u> Change appointment to another date and time by clicking change button	1. Centre name: CARPE DIEM FIRST YEARS PTE LTD 2. Schedule Date: 19 Nov 3. Schedule Time: 10am	“Successfully Scheduled” message	Pass
Centre-side				
5	<u>Successful rejection of appointment</u> Reject appointment that have been made by parent by clicking reject button	1. Centre name: CARPE DIEM FIRST YEARS PTE LTD 2. Schedule Date: 19 Nov 3. Schedule Time: 10am	Status Successfully Updated	Pass

Evaluation Quiz

Test ID	Description	Test Vector	Expected Result	Actual Result
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1	Successful attempt of quiz	16 options “NEVER”, 15 “OFTEN”	30/62 overall score	Pass
2	Successful attempt of quiz	7 options “SOMETIMES”, 24 options “OFTEN”	55/62 overall score	Pass
3	Successful attempt of quiz	All 31 options “OFTEN”	62/62	Pass
4	Unsuccessful attempt of quiz - Unenrolled child		Unable to attempt quiz	Pass

8.2. White Box Testing

I. SearchFilter

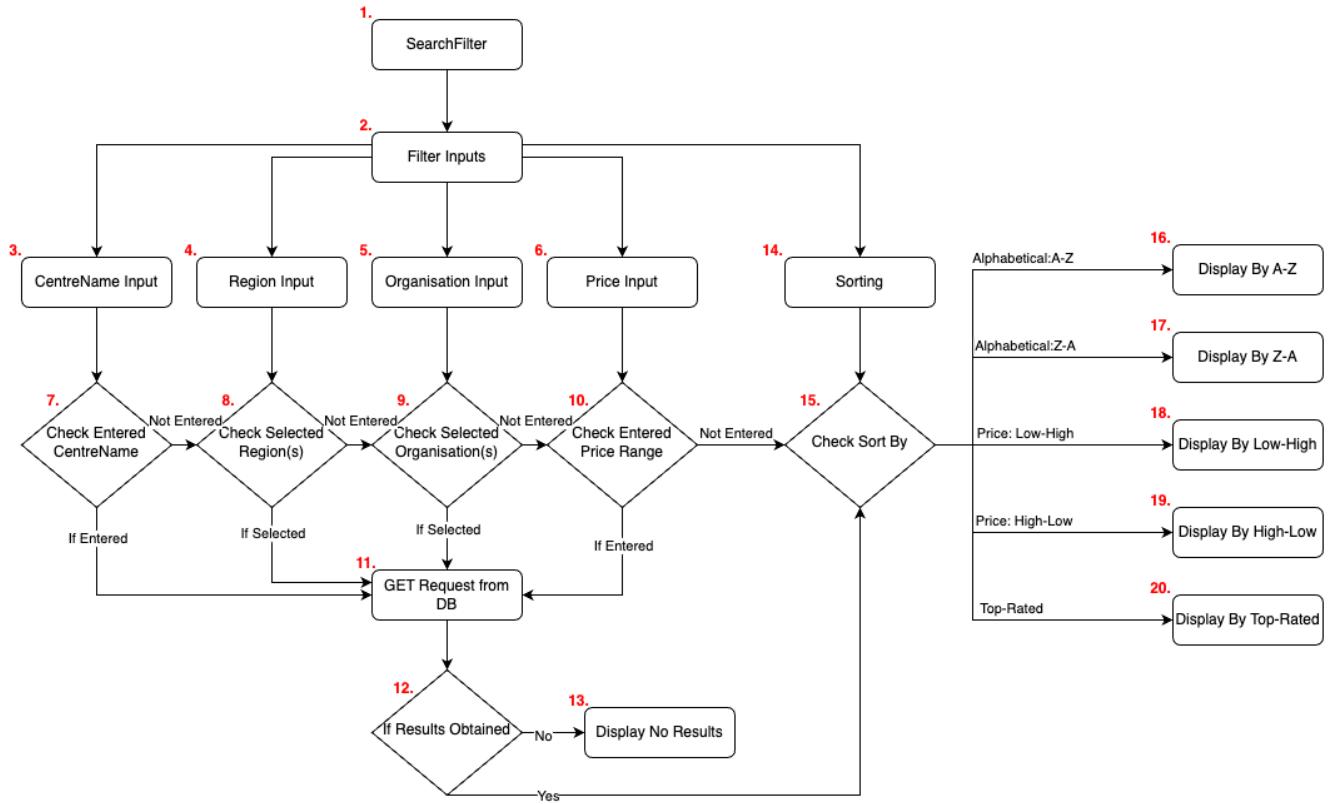
Pseudocode

(Precondition: User is at Homepage)

```

get(CentreName input);
get(Region selections);
get(Organisation selections);
get(Price selections);
if(not all fields are null){
    results = query MongoDB (CentreName, Region, Organisation, Price);
    if(results == null){
        "No Results";
    }else{
        get(sortingSelections);
        display(sort);
    }else{
        showAll();
    }
}

```



Test ID	Basis Path	Input Test Cases	Expected Output	Pass / Fail
1	1,2,3,7,8,9,10,15,16	All Fields Empty Obtain Results Display By A-Z	All 1933 results are retrieved Displayed in A-Z order	Pass
2	1,2,3,7, 11,12,4 ,8,9,10,15,16	Enter CentreName: ace Obtain Results Other Fields Empty Display By A-Z	37 Results are retrieved Displayed in A-Z order	Pass
3	1,2,3,7, 11,12,13	Enter CentreName: zonekid Obtain Results Other Fields Empty	No results obtained	Pass
4	1,2,3,7,8,5,9,6,10,11, 12,15,17	Select Region: Central Select Org: E-Bridge Pre-school Obtain Results Other Fields Empty Display By Z-A	484 Results are retrieved 4 Results are retrieved Displayed in Z-A order	Pass
5	1,2,3,7,8,9,10, 11,12,13	Enter Price Range: 3800 - 5000 Obtain Results Other Fields Empty	No results obtained	Pass

6	1,2,3,7,8,9, 11,12,6, 10,15,16	Select Org: E-Bridge Pre-school Obtain Results Other Fields Empty Display By A-Z	23 Results are retrieved Displayed in A-Z order	Pass
7	1,2,3,7, 8,11,12,5, 9, 10,15,16	Select Region: West Obtain Results Display By A-Z	484 Results are retrieved Displayed in A-Z order	Pass

II. ForgetPassword [Updated on 2/11]

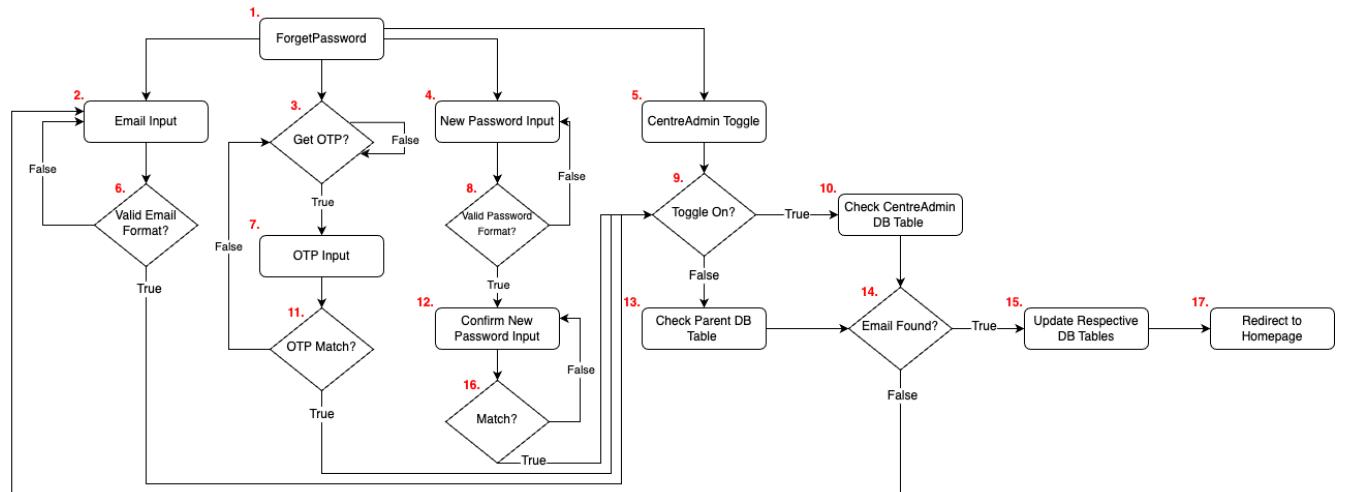
Pseudocode

(Precondition: Guest is at ForgetPassword page)

```

input email;
while(email format is invalid){
    show(err);
    input email;
}
get OTP;
input OTP;
while(OTP is not a match){
    show(err);
    get OTP;
    input OTP;
}
input newPassword;
while(newPassword format is invalid){
    show(err);
    input newPassword;
}
input confirmPassword;
while(confirmNewPassword != newPassword){
    show(err);
    input confirmPassword;
}
if(toggle = ON){
    found = CentreAdmin.find(email);
    CentreAdmin.update(newPassword);
}else{
    found = Parent.find(email);
    Parent.update(newPassword);
}
redirect(homepage);

```

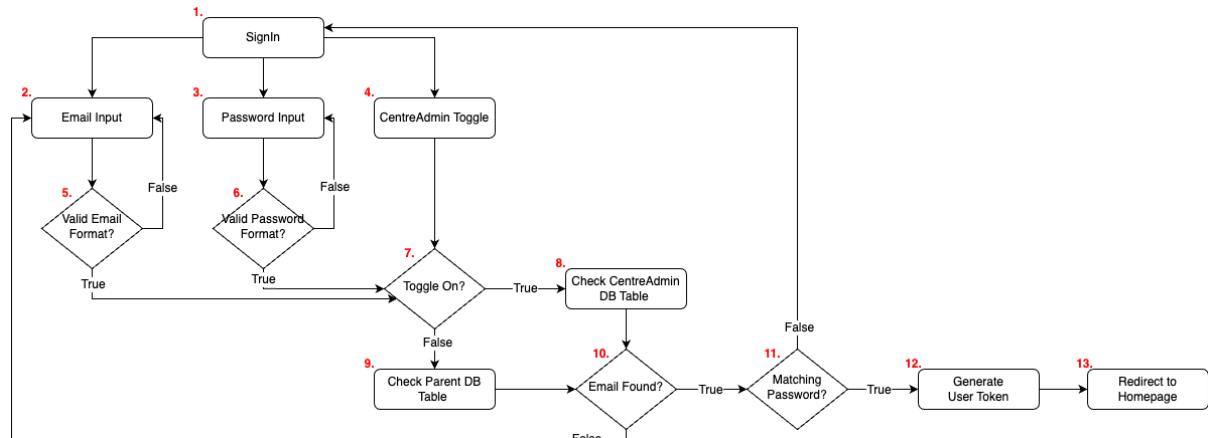


Test ID	Basis Path	Input Test Cases	Expected Output	Pass / Fail
1	1,2,6,3,7,11,4,8,12,16,5,9,10,14,15,17	Valid Email Format: thor@e.com Gets OTP OTP Matches Valid Password Format: Password#1 Confirm Password Matches CentreAdmin Toggle On Email Found	CentreAdmin table updated with new password. Update Successful. User redirected to homepage.	Pass
2	1,2,6,3,7,11,4,8,12,16,5,9, 13 ,14,15,17	Valid Email Format: thor@e.com Gets OTP OTP Matches Valid Password Format: Password#1 Confirm Password Matches CentreAdmin Toggle Off Email Found	Parent table updated with new password. Update Successful. User redirected to homepage.	Pass
3	1,2,6,1,7,11, 3,7,11 ,4,8,12,16,5,9,10,14,15,17	Valid Email Format: doris@e.com Gets OTP OTP Doesn't Match Gets OTP OTP Matches Valid Password Format: Password#1 Confirm Password Matches CentreAdmin Toggle On Email Found	Invalid OTP CentreAdmin table updated with new password. Update Successful. User redirected to homepage.	Pass

			<u>Password does not match.</u>	
4	1,2,6,3,7,11,4,8,12, 16, 12,16 ,5,9,10,14, 15,17	Valid Email Format: doris@e.com Gets OTP OTP Matches Valid Password Format: Password#1 Confirm Password Doesn't Match: Password#11 Confirm Password Matches CentreAdmin Toggle On Email Found	CentreAdmin table updated with new password. Update Successful. User redirected to homepage.	Pass
5	1,2,6,3,7,11, 3,7,11 , 4,8,12,16,5,9, 13 ,14 ,15,17	Valid Email Format: thor@e.com Gets OTP OTP DOESN'T Match Gets OTP OTP Matches Valid Password Format: Password#1 Confirm Password Matches CentreAdmin Toggle Off Email Found	<u>Invalid OTP</u> Parent table updated with new password. Update Successful. User redirected to homepage.	Pass
6	1,2,6,3,7,11,4,8, 4,8 12 ,16,5,9,10,14,15 ,17	Valid Email Format: doris@e.com Gets OTP OTP Matches Invalid Password Format: password Valid Password Format: Password#1 Confirm Password Matches CentreAdmin Toggle On Email Found	<u>At least one Uppercase</u> CentreAdmin table updated with new password. Update Successful. User redirected to homepage.	Pass
7	1,2,6,3,7,11,4,8,12, 16,5,9,10,14, 2,6,9 , 13,14,15,17	Valid Email Format: o@e.com Gets OTP OTP Matches Valid Password Format: Password#1 Confirm Password Matches CentreAdmin Toggle Off Email NOT Found Valid Email Format: thor@e.com CentreAdmin Toggle Off Email Found	<u>User not found</u> CentreAdmin table updated with new password. Update Successful. User redirected to homepage.	Pass
8	1,2,6,3,7,11,4,8,12, 16,5,9, 13 ,14, 2,6,9 , 13,14,15,17	Valid Email Format: o@e.com Gets OTP OTP Matches Valid Password Format Confirm Password Matches CentreAdmin Toggle Off Email NOT Found Valid Email Format: thor@e.com CentreAdmin Toggle Off	<u>User not found</u> Parent table updated with new password. Update Successful. User redirected to homepage.	Pass

		Email Found		
--	--	-------------	--	--

III. SignIn



Test ID	Basis Path	Input Test Cases	Expected Output	Pass / Fail
1	1,2,5,3,6,4,7,8,10,11,12,13	Valid Email Format: doris@e.com Valid Password Format: Password#1 CentreAdmin Toggle On Email Found Matching Password	User token generated. User redirected to homepage.	Pass
2	1,2,5, 2,5 ,3,6,4,7,8,10,11,12,13	Invalid Email Format: thor@.com Valid Email Format: thor@e.com Valid Password Format: Password#1 CentreAdmin Toggle On Email Found Matching Password	User token generated. User redirected to homepage.	Pass
3	1,2,5,3,6, 3,6 ,4,7,8,10,11,12,13	Valid Email Format: thor@e.com Invalid Password Format: password Valid Password Format: Password#1 CentreAdmin Toggle On Email Found Matching Password	User token generated. User redirected to homepage.	Pass
4	1,2,5,3,6,4,7, 9 ,10,11,12,13	Valid Email Format: thor@e.com Valid Password Format: Password#1 CentreAdmin Toggle Off Email Found Matching Password	CentreAdmin User token generated. User redirected to homepage.	Pass

5	1,2,5,3,6,4,7,8,10, <u>2</u> , <u>5,7,8,10,</u> 11,12,13	Valid Email Format: thor@e.com Valid Password Format: Password#1 CentreAdmin Toggle On <u>Email NOT Found</u> <u>Valid Email Format: thor@e.com</u> <u>CentreAdmin Toggle On</u> Email Found Matching Password	User token generated. User redirected to homepage.	Pass
6	1,2,5,3,6,4,7,8,10,1 <u>1,13,6,7,8,10,11,</u> 1 2,13	Valid Email Format: thor@e.com Valid Password Format: Password#1 CentreAdmin Toggle On Email Found <u>Fail Matching Password</u> <u>Valid Password Format: Password#1</u> <u>CentreAdmin Toggle On</u> Email Found Matching Password	User token generated. User redirected to homepage.	Pass

IV. ParentRegistration

Pseudocode
(Precondition: Guest is not logged in yet)

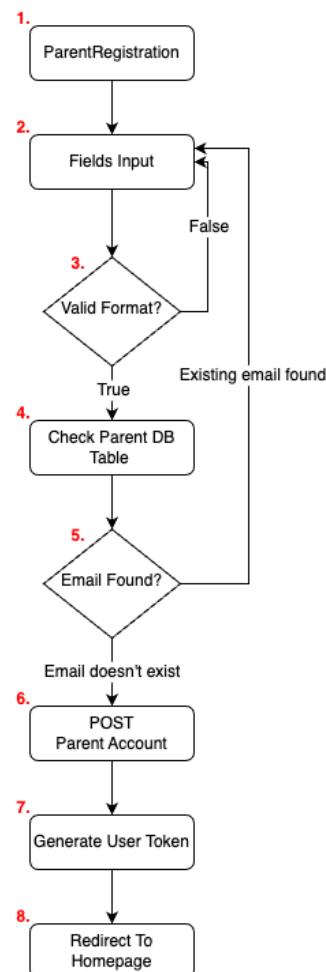
```

input firstname;
input lastname;
select citizenship;
input address;
while(address format is invalid){
    show(err);
    input address;
}
input postalcode;
while(postalcode format is invalid){
    show(err);
    input postalcode;
}
input phonenum;
while(phonenum format is invalid){
    show(err);
    input phonenum;
}
input email;
while(email format is invalid){
    show(err);
    input email;
}
input newPassword;
while(newPassword format is invalid){
    show(err);
    input newPassword;
}
```

```

input confirmPassword;
while(confirmNewPassword != newPassword){
    show(err);
    input confirmPassword;
}
select childcitizenship;
input childspecialdietary;
select childsecondlanguage;
click(submit);
if(findEmail == true){
    show("Email already exists");
    return;
}
createParentAcc();
if(successParentAcc){
    show("Parent Account successfully created")
}else{
    show(err);
}
redirect(homepage);

```

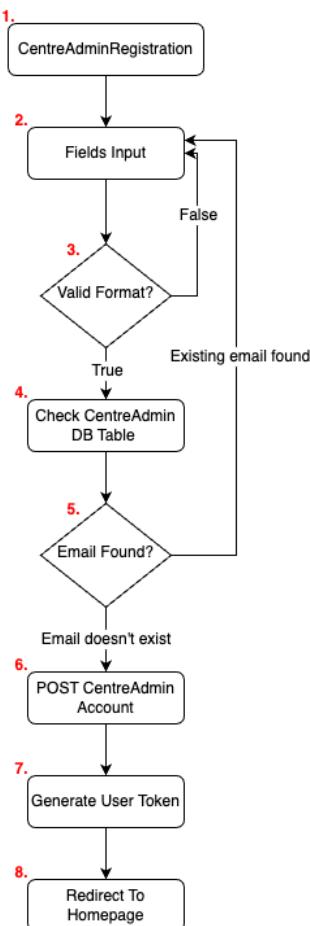


Test ID	Basis Path	Input Test Cases	Expected Output	Pass / Fail
1	1,2,3,4,5,6,7,8	Fields all have valid format Email is not found	POST Parent record User token generated. User redirected to homepage.	Pass
2	1,2,3, <u>2,3,</u> 4,5,6,7,8	<u>Not all fields have valid format</u> Fields all have valid format Email is not found	<u>Format Error Displayed</u> POST Parent record User token generated. User redirected to homepage.	Pass
3	1,2,3,4,5, <u>2,3,4,5,</u> 6,7,8	Fields all have valid format <u>Email is found</u> Email is not found	<u>Email already exists.</u> POST Parent record User token generated. User redirected to homepage.	Pass

V. CentreRegistration

Pseudocode
(Precondition: Guest is not logged in yet)

Similar to ParentRegistration.



Test ID	Basis Path	Input Test Cases	Expected Output	Pass / Fail
1	1,2,3,4,5,6,7,8	Fields all have valid format Email is not found	POST Parent record User token generated. User redirected to homepage.	Pass
2	1,2,3, <u>2,3,</u> 4,5,6,7,8	Not all fields have valid format Fields all have valid format Email is not found	Format Error Displayed POST Parent record User token generated. User redirected to homepage.	Pass

			<u>Email already exists.</u>	
3	1,2,3,4,5, 2,3,4,5,6, 7,8	Fields all have valid format Email is found Email is not found	POST Parent record User token generated. User redirected to homepage.	Pass

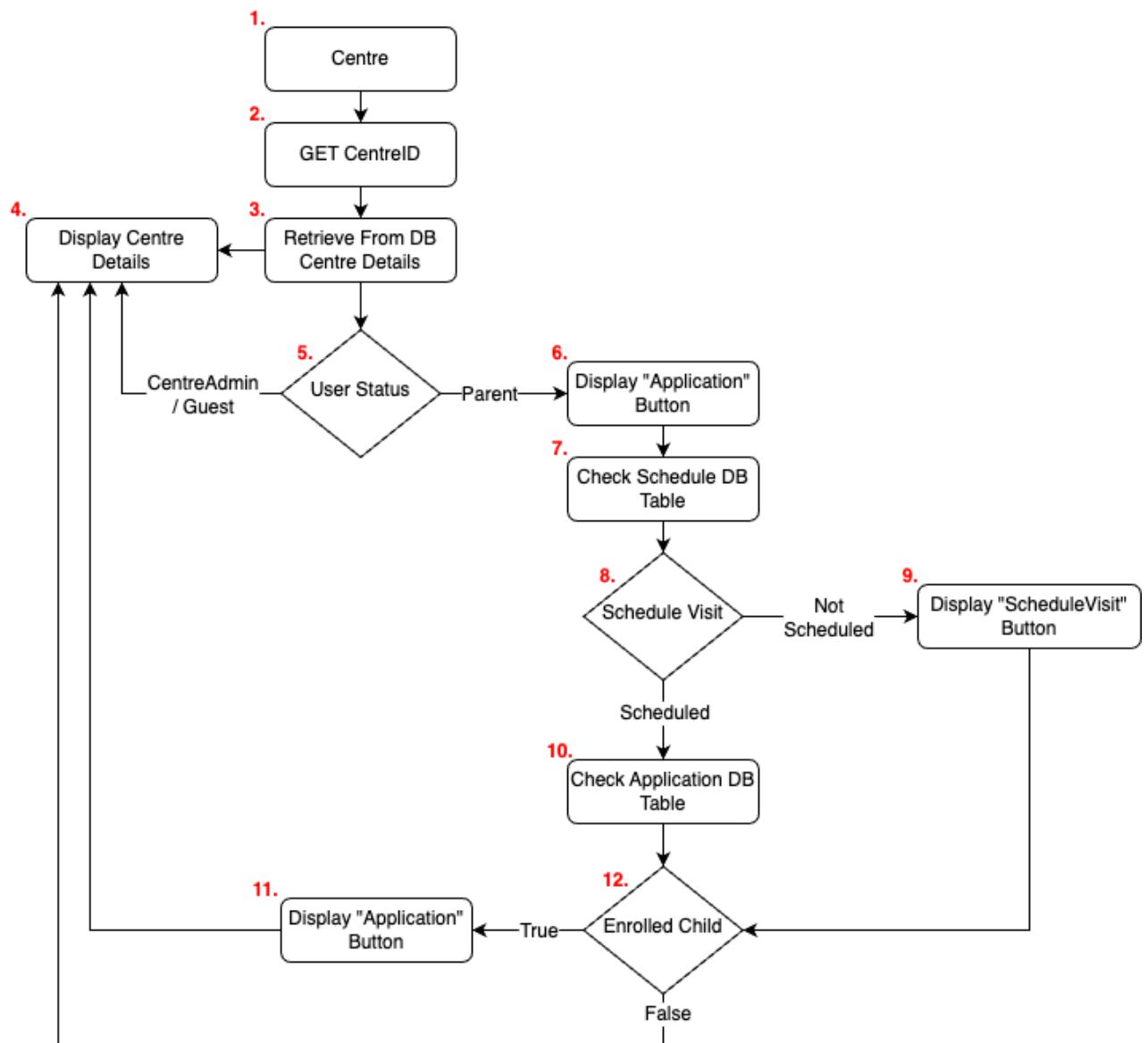
VI. Centre

Pseudocode

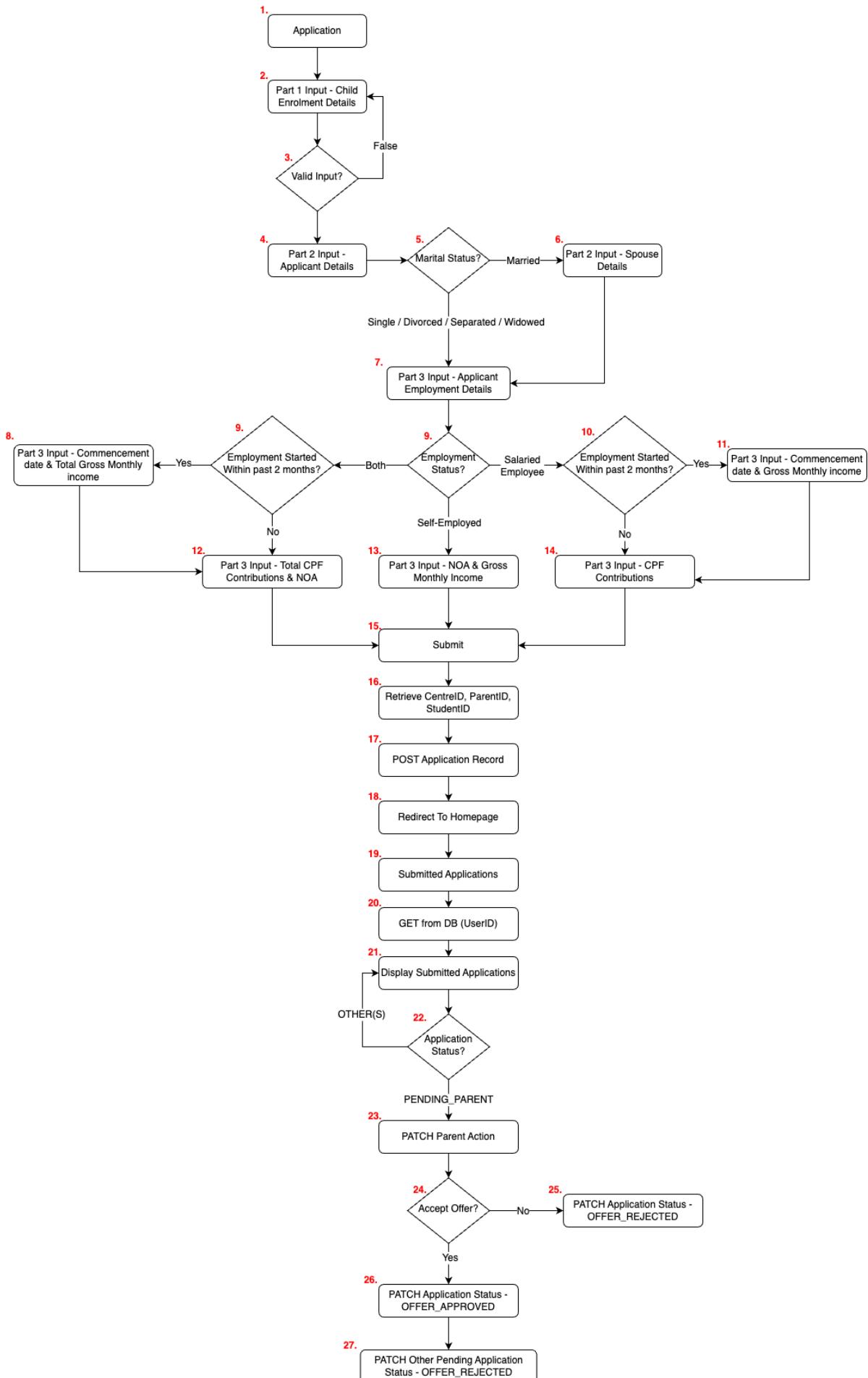
```

obtain(centreDetails);
display(centreDetails);
if(parent){
    show(ApplicationButton);
    if(schedule == Not scheduled){
        show(ScheduleButton);
    }
    if(application != null && application.centre == selectedcentre && application.status ==
OFFER_APPROVED){
        show(ReviewButton);
    }
}

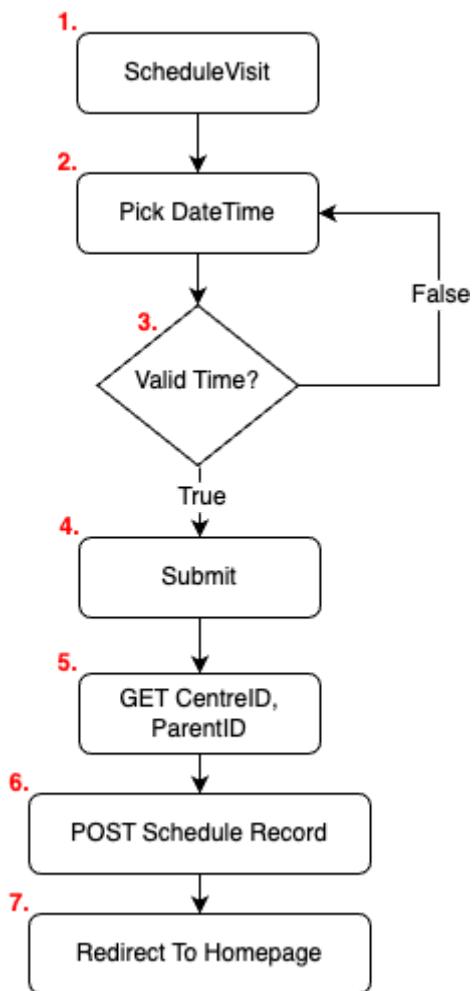
```



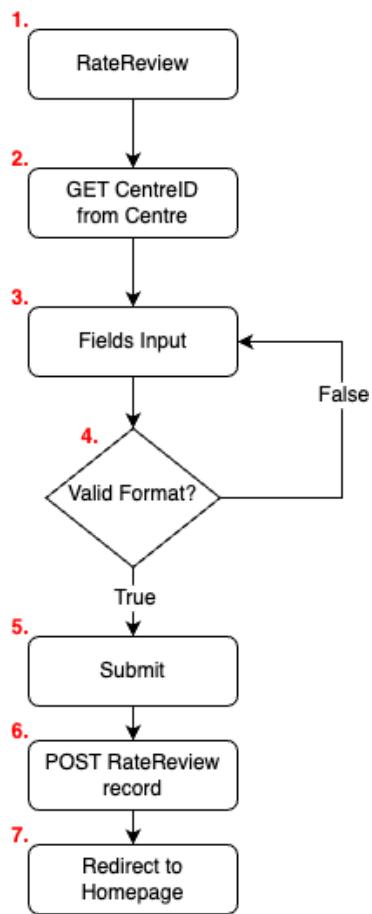
VII. Application



VIII. ScheduleView



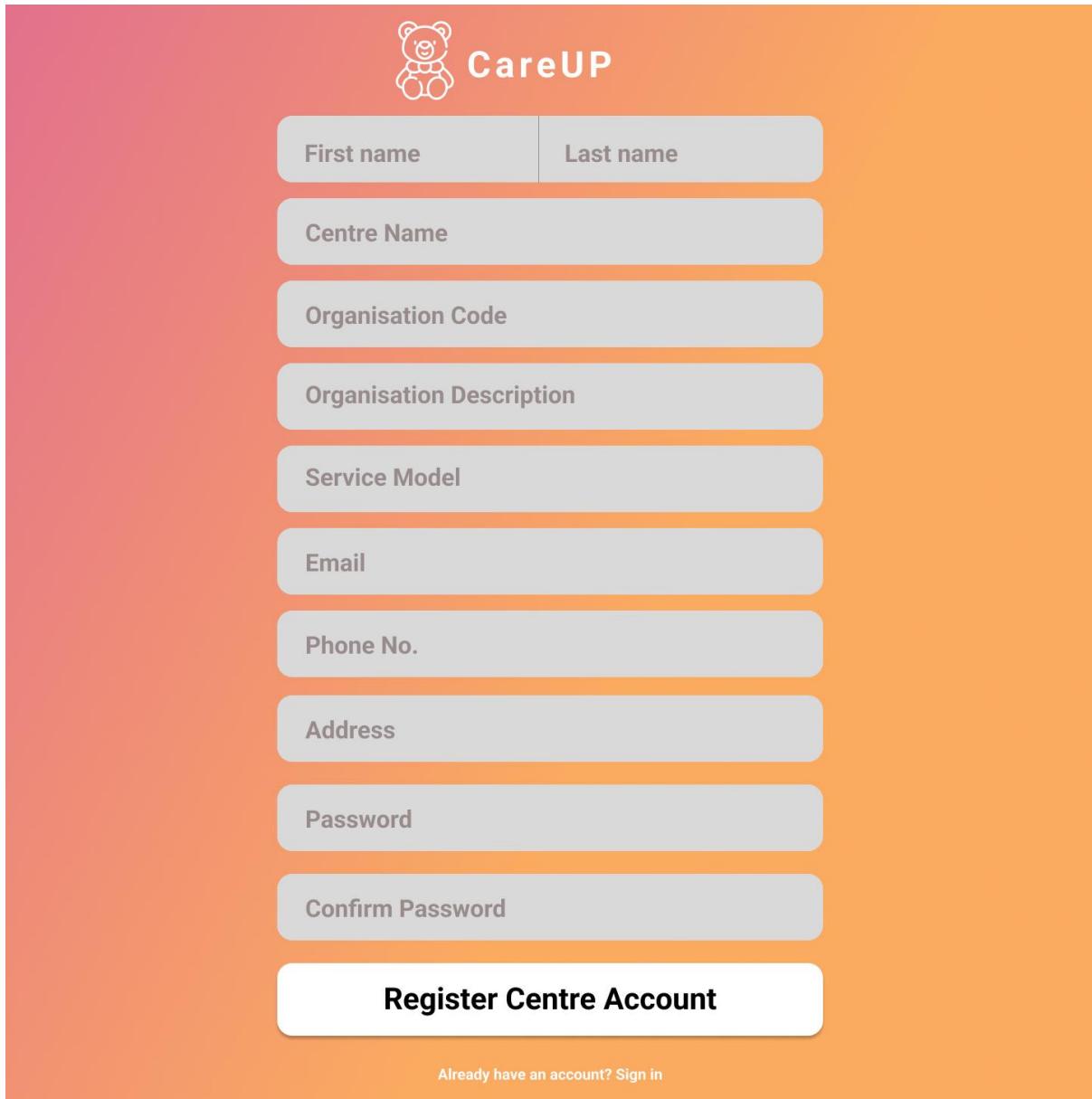
IX. RateReview



9. Appendices

9.1. UI mockups

[https://www.figma.com/file/Qx3aNlt3iQOXiZM6rkWwEW/SC2006---Fantastic5-\(CareUP\)?node-id=0%3A1](https://www.figma.com/file/Qx3aNlt3iQOXiZM6rkWwEW/SC2006---Fantastic5-(CareUP)?node-id=0%3A1)



The image shows a registration form for 'CareUP'. At the top left is a small teddy bear icon. To its right, the word 'CareUP' is written in a bold, sans-serif font. Below this, there is a series of input fields arranged vertically. The first two fields are grouped together and have a thin vertical border between them. The other fields are individual rectangles. All fields have a light gray background and black text. At the bottom of the form is a large, rounded rectangular button with the text 'Register Centre Account' in bold black letters. At the very bottom of the page, outside the main form area, is a small, centered link: 'Already have an account? Sign in'.

First name	Last name
Centre Name	
Organisation Code	
Organisation Description	
Service Model	
Email	
Phone No.	
Address	
Password	
Confirm Password	
Register Centre Account	

Already have an account? [Sign in](#)



CareUP

First name

Last name

Citizenship

Address

Postal Code

Phone No.

Email

Password

Confirm Password

Child's Citizenship

Child Special Dietary

Child's Preferred Second Language

Register Parent Account

[Already have an account? Sign in](#)



CareUP

First name

Last name

Citizenship

Address

Postal Code

Phone

Invalid Password

Email

The password you typed is invalid.
It should contain 1 uppercase, 1 lowercase, 1
number, and at least 8 characters.

Done

Password

Confirm Password

Child's Citizenship

Child Special Dietary

Child's Preferred Second Language

Register Parent Account

Already have an account? Sign in



{Centre.centrename}



{centre.rating} numreviews={centre.numreviews}
Description:{centre.centrename}
Location:{centre.centreaddress}
Contact Us:
Phone: {centre.centrecontactno}
Email: {centre.centreemailaddress}</p>
Centre Website("http://" + centre.centrewebsite)
Opening Hours:
Weekdays: {centre.weekdayfullday}
Saturdays: {centre.saturday}
Types of services:{centre.typeofservice}
Level of services: Weekdays: {centre.leveloffered}
Second Languages Offered: {centre.secondlanguagesoffered}
Type of food offered: {centre.foodoffered}
Fee Charges:
Fees: \$ {centre.fees}
Incidental Charges: \${centre.incidentalcharges}

Reviews

There are currently no reviews now



Email

Reset Password

Confirm Password

Confirm



Enter Email

• • • • • • •

CentreAdmin

[New Guest?](#) [New Centre?](#)

[Forgot Password](#)

Sign In



Enter Email

• • • • • • •

CentreAdmin

[New Guest?](#) [New Centre?](#)

[Forgot Password](#)

Sign In

[View Submitted Applications](#)
[View Scheduled Visits](#)

CareUP

Hello, Mr John Tan!

[Quiz](#)

Search

[Learn More](#)

[Learn More](#)

[Learn More](#)

CareUP

{Centre.centrename}

MOSAIC PRESCHOOL

Play smart, learn award

Hola 你好 Hallo

{centre.rating} numreviews={centre.numreviews}

Description:{centre.centrename}

Location:{centre.centreaddress}

Contact Us:

Phone: {centre.centrecontactno}

Email: {centre.centreemailaddress}</p>

Centre Website("http://" + centre.centrewebsite)

Opening Hours:

Weekdays: {centre.weekdayfulday}

Saturdays: {centre.saturday}

Types of services:{centre.typeofservice}

Level of services:Weekdays: {centre.leveloffered}

Second Languages Offered: {centre.secondlanguagesoffered}

Type of food offered: {centre.foodoffered}

Fee Charges:

Fees: \$ {centre.fees}

Incidental Charges: \${centre.incidentalcharges}

[Apply Now!](#)
[Review Here](#)
[Schedule Visit](#)



Hello, Mr John Tan!

Pending Offers

Paediatric Symptom Test (PSC)

Test Questions

Your Results

Q1. Complains of aches

Yes No

Hello, Mr John Tan!



Submit your review here!

Name*

Childcare Centre*

Cleanliness*



Well-being*



Quality of Teaching*



Feedback

Submit



Hello, Mr John Tan!

Pending Offers

CENTRE NAME	DATETIME	STATUS	ACTIONS
Little Tree House	October 11, 2022 12:10PM	APPROVED	<button>Cancel</button>
Little Tree House	October 11, 2022 12:10PM	CANCELLED	No Actions Needed
Young Minds Childcare	October 11, 2022 12:10PM	CANCELLED	No Actions Needed
Young Minds Childcare	October 11, 2022 12:10PM	REJECTED	No Actions Needed

[See More](#)



{Centre.centrename}



Reviews

There are currently no reviews now

{centre.rating} numreviews={centre.numreviews}

Schedule Your Visit - Pick a date and time

October 2022 < >

S	M	T	W	T	F	S
					1	
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

Fees: \$ {centre.fees}
Incidental Charges: \${centre.incidentalcharges}

[Apply Now!](#)

[Review Here](#)

[Schedule Visit](#)



Application Form

1. Fill in your particulars

First Name | Last Name

Email

Phone Number

Citizenship

NRIC

Occupation | Company Name

Emergency Contact

Address

2. Fill in your child's particulars

First Name | Last Name

Citizenship

Preferred Second Lang

DOB

Commencement Date

Gender

NRIC

Country of Birth

DOB

Dietary Preferences

- Vegetarian
- Halal
- Others

3. Supporting Information

Anything to take note of....

I have agreed to the terms and conditions of CareUp

Submit Application

[View Parents Applications](#)

[View Parents Schedule](#)



CareUP

Hello, CenterAdmin

[View Students Quiz](#)

Area, fees, ...

Search



[Learn More](#)



[Learn More](#)



[Learn More](#)





Quiz Results



Mr Tan ABC

Completed on 13 Sep 2022

Score: 12/15

Results: 13/15

Q1. Complains of aches

Q1. Complains of aches

Q1. Complains of aches

Q1. Complains of aches



Submitted Application – {ParentFirstName}

1. Parent Particulars

John | Tan

jt@gmail.com

+65 9123 9123

Singaporean

T1231231A

Mechanic | ABC Company

+65 9123 9123

Approve Application?

