



CSE 343 – Software Engineering

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Gebze Technical University



SportKids Application

Software Project Report 2

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USER REQUIREMENTS

SYSTEM USERS

There are 3 types of users that may make use of the SportKids system:

1. **System administrator:** System Administrator controls the management of a sports school. System administrator interacts directly with the system. The system administrator is responsible for recording all user information into the system. The users involved are parents and instructors. The system administrator also records events such as course information required for the system, course hours, course assignment to parents and instructors, etc. in the system. Administrator can track parents' payments and update the information in the system according to payment status. Administrator can update all this information, delete it or create new information...
2. **Parents:** parents are the customers who will actively use the system. The system has been created for parents to follow their children's course activities and monitor their payment status. Parents cannot dynamically affect the system. The system is more of an information viewing application for parents, which meets all the needs of the parent user type.
3. **Instructor:** instructors are teachers who give sports courses to children in sports schools. Instructors can view course information, child information, and training calendar. While doing these, it does not directly affect the system. The instructor keeps track of children's attendance at classes and records their attendance in the system, so he or she can directly influence the system. In its current state, the system meets the needs of instructors.

The SportKids app is a comprehensive digital solution designed to simplify the management of sports schools and meet the needs of managers, parents and trainers. This document outlines specific user requirements for the System Administrator, parents and instructors roles in the application. These requirements focus on ensuring the effective management and operational efficiency of sports schools, covering areas such as user information management, course organization, payment tracking and communication. With the implementation of these features, the SportKids system aims to provide a robust and user-friendly platform, improving the overall experience of all users involved in the field of sports education.

1. System Administrator User Requirements:

1.1 General Administration:

- 1.1.1 **Comprehensive School Management:** The SportKids system shall enable the System Administrator to oversee the overall management of a sports school, including user information management and event scheduling.

2.1 User Information Management:

- 1.1.1 **Data Input and Maintenance:** The system shall allow the administrator to input and maintain user data for parents and instructors.
- 2.1.1 **Profile Creation and Modification:** It shall provide functionalities to create, update, and delete user profiles as required.

3.1 Course Management:

- 1.1.1 **Course Detail Administration:** The system shall enable the administrator to input and update course information, including course hours, locations, and instructor assignments.
- 2.1.1 **Course Assignment and Linking:** It shall allow linking courses to specific instructors and parents, facilitating easy access and management.
- 4.1 **Payment Tracking:**
 - 1.1.1 **Tracking Tools for Parent Payments:** The system shall provide tools for tracking and recording parents' payments.
 - 2.1.1 **Payment Status Updates and Reporting:** It shall allow the administrator to update the payment status and generate reports on payment history
- 5.1 **Announcement Dissemination:**
 - 1.1.1 **Announcement Posting and Management:** The system shall empower the administrator to post and manage announcements relevant to parents and instructors.
 - 2.1.1 **Notification System Management:** It shall support notification features to ensure timely communication.
- 6.1 **Security and Access Control:**
 - 1.1.1 **Role-Based Access Implementation:** The system shall implement role-based access controls to ensure data security and integrity.
 - 2.1.1 **Access Permission Management:** It shall allow the administrator to define and manage access permissions for different user groups (parents, instructors).
- 7.1 **Integration and Compatibility:**
 - 1.1.1 **Integration with Existing Platforms:** The system shall be designed to integrate seamlessly with existing platforms used by the sports school.
 - 2.1.1 **Data Format and Protocol Compatibility:** It shall ensure compatibility with standard data formats and communication protocols for ease of data transfer and system interoperability.

These requirements are aligned with the functionalities and roles of the System Administrator in the SportKids application, ensuring efficient management of the sports school's administrative tasks.

2. Parents User Requirements

1.1 Information Access:

- 1.1.1 **Course Schedules and Activities:** The system shall provide a detailed view of each child's sports course schedule, including dates, times, and locations. It shall allow parents to access a calendar view of upcoming activities and events related to their children's sports engagement.
- 2.1.1 **Attendance Records:** The system shall enable parents to track their children's attendance in each class or session, offering insights into their participation and consistency.
- 3.1.1 **Instructor Profiles and Communication:** It shall display detailed profiles of instructors, including qualifications and contact information.

- 4.1.1 **Event Information:** Parents shall be able to view details of upcoming sports events including event locations and times.

2.1 Payment Monitoring:

- 1.1.1 **Payment Status Overview:** The system shall provide a dashboard for parents to view current payment statuses, including detailed breakdowns of fees for different courses or activities.

3.1 Communication:

- 1.1.1 **Direct Messaging:** The system shall facilitate direct messaging capabilities for parents to communicate with sports school administrators for any queries or concerns.

This expanded list of user requirements for parents in the SportKids application focuses on providing comprehensive access to information, enhancing monitoring capabilities, and facilitating smoother communication, thereby ensuring an engaging and informed experience for parents.

3. Instructors User Requirements

1.1 Course and Student Overview:

- 1.1.1 **Viewing Course Details:** Instructors shall have the ability to access information about the courses they are teaching.
- 2.1.1 **Student List Access:** The system shall enable instructors to view lists of students enrolled in their courses.

2.1 Class Schedule:

- 1.1.1 **Teaching Schedule Interface:** Instructors shall be provided with an interface to view their teaching schedules, detailing class times, location

3.1 Viewing Announcements:

- 1.1.1 **Access to Administrative Announcements:** The system shall enable instructors to view announcements posted by administrators. This feature ensures that instructors are kept informed about relevant updates, events, and decisions impacting their courses and students.

4.1 Recording Attendance:

- 1.1.1 **Student Attendance Recording:** Instructors shall be able to mark student attendance within the system, providing accurate records for each class session.

These requirements address the functionalities and needs specific to instructors in the SportKids application, focusing on course management, scheduling, announcement, and student attendance tracking, thereby enhancing the instructors' ability to effectively manage their classes and engage with students.

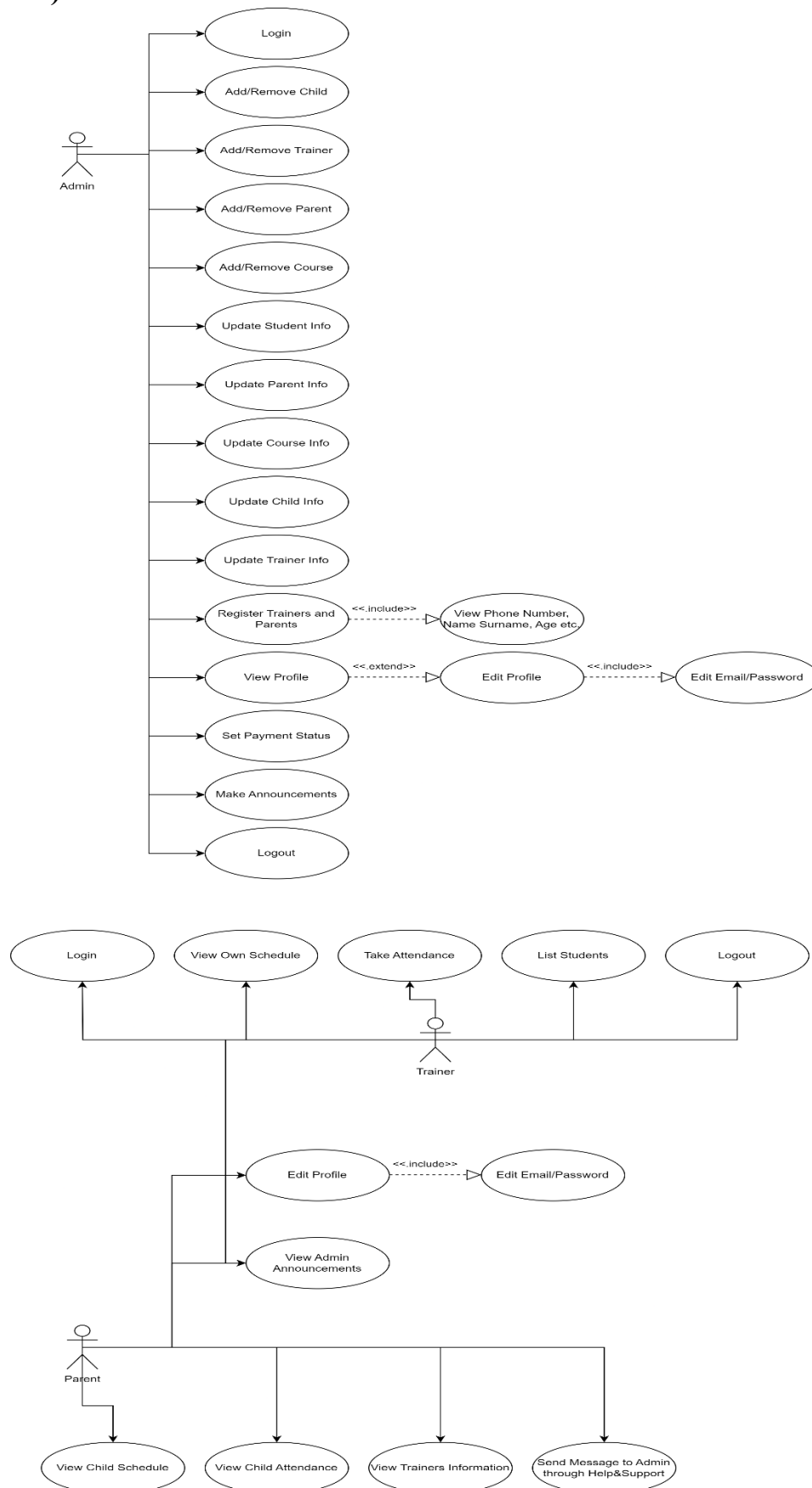
UML DIAGRAMS

1) CONTEXT MODEL



2) USE CASE DIAGRAM AND TEMPLATES

2.1) USE CASE DIAGRAM



2.2) USE CASE TEMPLATES

System	SportKids Web
Use Case	Login
Actors	Admin
Data	<ul style="list-style-type: none">• Input: Admin username and password• Processing: Authentication process• Output: Access granted or denied
Stimulus	Admin enters credentials on the login page.
Response	System allows access to the admin dashboard if credentials are correct.
Comments	Secure login is critical for data privacy.

System	SportKids Web
Use Case	Add/Remove Child
Actors	Admin
Data	<ul style="list-style-type: none">• Input: Child's personal and enrollment information• Processing: Add or remove a child record in the database• Output: Confirmation of action completion
Stimulus	Admin needs to update the list of enrolled children.
Response	Child's record is added or removed from the system.
Comments	This use case is essential for maintaining up-to-date enrollment records.

System	SportKids Web
Use Case	Add/Remove Trainer
Actors	Admin
Data	<ul style="list-style-type: none">• Input: Trainer's personal information and qualifications• Processing: Add or remove a trainer record in the database• Output: Confirmation of action completion
Stimulus	Admin needs to manage trainer staffing.
Response	Trainer's record is added or removed from the system.
Comments	It's vital to keep the trainer records current for scheduling and payroll.

System	SportKids Web
Use Case	Add/Remove Parent
Actors	Admin
Data	<ul style="list-style-type: none"> • Input: Parent's personal information • Processing: Add or remove a parent record in the database • Output: Confirmation of action completion
Stimulus	Admin needs to update the parents' information.
Response	Parent's record is added or removed from the system.
Comments	This use case is crucial for keeping track of who has custodial rights and communication preferences.

System	SportKids Web
Use Case	Add/Remove Course
Actors	Admin
Data	<ul style="list-style-type: none"> • Input: Course details including name, schedule, and trainer assignment • Processing: Add or remove a course in the system • Output: Confirmation of course creation or deletion
Stimulus	New courses are developed, or existing ones are no longer offered.
Response	Course records are updated in the system.
Comments	Course management is fundamental for the school's operation.

System	SportKids Web
Use Case	Update Student Info
Actors	Admin
Data	<ul style="list-style-type: none"> • Input: Updated student information • Processing: Modify student records in the database • Output: Confirmation of record update
Stimulus	Changes in student information due to new details or corrections.
Response	Student records are updated with the new information.
Comments	Accuracy in student data is important for school records and compliance.

System	SportKids Web
Use Case	Update Parent Info
Actors	Admin
Data	<ul style="list-style-type: none"> • Input: Updated parent information • Processing: Modify parent records in the database • Output: Confirmation of record update
Stimulus	Changes in parent information due to new details or corrections.
Response	Parent records are updated with the new information.
Comments	Keeping parent information current is essential for effective communication.

System	SportKids Web
Use Case	Update Course Info
Actors	Admin
Data	<ul style="list-style-type: none"> • Input: Updated course details • Processing: Modify course records in the system • Output: Confirmation of update
Stimulus	Course details change due to schedule updates or curriculum revisions.
Response	Course records are updated in the system.
Comments	Timely updates to course information are necessary for students and trainers.

System	SportKids Web
Use Case	Update Child Info
Actors	Admin
Data	<ul style="list-style-type: none"> • Input: Updated child's personal and enrollment information • Processing: Modify child records in the database • Output: Confirmation of record update
Stimulus	Changes in child's information or enrollment status.
Response	Child's records are updated in the system.
Comments	Accurate child records are crucial for administration and safety.

System	SportKids Web
Use Case	Update Trainer Info
Actors	Admin

Data	<ul style="list-style-type: none"> • Input: Updated trainer's personal information and qualifications • Processing: Modify trainer records in the database • Output: Confirmation of record update
Stimulus	Changes in trainer details due to qualifications update or personal information change.
Response	Trainer records are updated in the system.
Comments	This use case supports HR processes and trainer management.

System	SportKids Web
Use Case	Register Trainers and Parents
Actors	Admin
Data	<ul style="list-style-type: none"> • Input: Personal information such as phone number, name, surname, age, etc. • Processing: Validate and create user accounts with roles assigned • Output: User credentials and confirmation of registration
Stimulus	Need to create new accounts for trainers or parents.
Response	New user accounts are created and details are communicated to the stakeholders.
Comments	This process is foundational for system access and role management.

System	SportKids Web
Use Case	View Profile
Actors	Admin
Data	<ul style="list-style-type: none"> • Input: Request to access profile details • Processing: Retrieve and display profile information • Output: Display of profile information
Stimulus	Admin wishes to review their personal profile information.
Response	Admin's profile information is displayed.
Comments	This use case is important for personal data verification and review.

System	SportKids Web
Use Case	Set Payment Status
Actors	Admin
Data	Input: Payment details and status update Processing: Update payment records in the system Output: Confirmation of payment status update

Stimulus	Receipt of payment or need to update payment status.
Response	Payment records are updated to reflect the status.
Comments	Accurate payment tracking is important for financial management.

System	SportKids Web
Use Case	Make Announcements
Actors	Admin
Data	<ul style="list-style-type: none"> • Input: Announcement content • Processing: Post announcement to the system • Output: Announcement is made available to the target audience
Stimulus	Need to communicate important information to trainers, parents, or students.
Response	Announcement is disseminated through the system.
Comments	This is a key communication tool for the admin.

System	SportKids Web
Use Case	Logout
Actors	Admin
Data	<ul style="list-style-type: none"> • Input: Request to end the session • Processing: Termination of the current user session • Output: Confirmation of logout
Stimulus	Admin decides to end their current session for security or personal reasons.
Response	Admin is logged out and the session is securely closed.
Comments	This use case ensures the security of the system when not actively in use.

System	SportKids Mobile
Use Case	Login
Actors	Trainer
Data	<ul style="list-style-type: none"> • Input: Trainer username and password • Processing: Authentication process • Output: Access granted or denied
Stimulus	Trainer enters credentials on the login page.
Response	System allows access to the trainer dashboard if credentials are correct.
Comments	Secure login is crucial for protecting sensitive information.

System	SportKids Mobile
Use Case	View Own Schedule
Actors	Trainer
Data	<ul style="list-style-type: none"> • Input: Request to view schedule • Processing: Retrieve the trainer's schedule from the database • Output: Display of the trainer's personal schedule
Stimulus	Trainer needs to check their upcoming classes or sessions.
Response	System displays the trainer's schedule.
Comments	Essential for trainers to plan and prepare for their sessions.

System	SportKids Mobile
Use Case	Take Attendance
Actors	Trainer
Data	<ul style="list-style-type: none"> • Input: Attendance data for a specific class or session • Processing: Record attendance information in the system • Output: Confirmation of attendance recording
Stimulus	A class or session begins, and the trainer needs to record who is present.
Response	System updates attendance records for the session.
Comments	Accurate attendance tracking is important for record-keeping and reporting.

System	SportKids Mobile
Use Case	List Students
Actors	Trainer
Data	<ul style="list-style-type: none"> • Input: Request to list students • Processing: Retrieve list of students from the database • Output: Display of student list for a particular course or session
Stimulus	Trainer needs to view the list of students enrolled in their course.
Response	System provides a list of students.
Comments	Useful for managing class activities and understanding class composition.

System	SportKids Mobile
Use Case	Logout
Actors	Trainer

Data	<ul style="list-style-type: none"> • Input: Request to end the session • Processing: Termination of the current user session • Output: Confirmation of logout
Stimulus	Trainer decides to end their current session.
Response	Trainer is logged out and the session is securely closed.
Comments	Ensures the security and integrity of the trainer's account.

System	SportKids Mobile
Use Case	View Child Schedule
Actors	Parent
Data	<ul style="list-style-type: none"> • Input: Request to view child's schedule • Processing: Retrieve the schedule from the database • Output: Display of the child's schedule
Stimulus	Parent wants to know their child's schedule for planning purposes.
Response	System displays the child's schedule.
Comments	Helps parents stay informed about their child's activities.

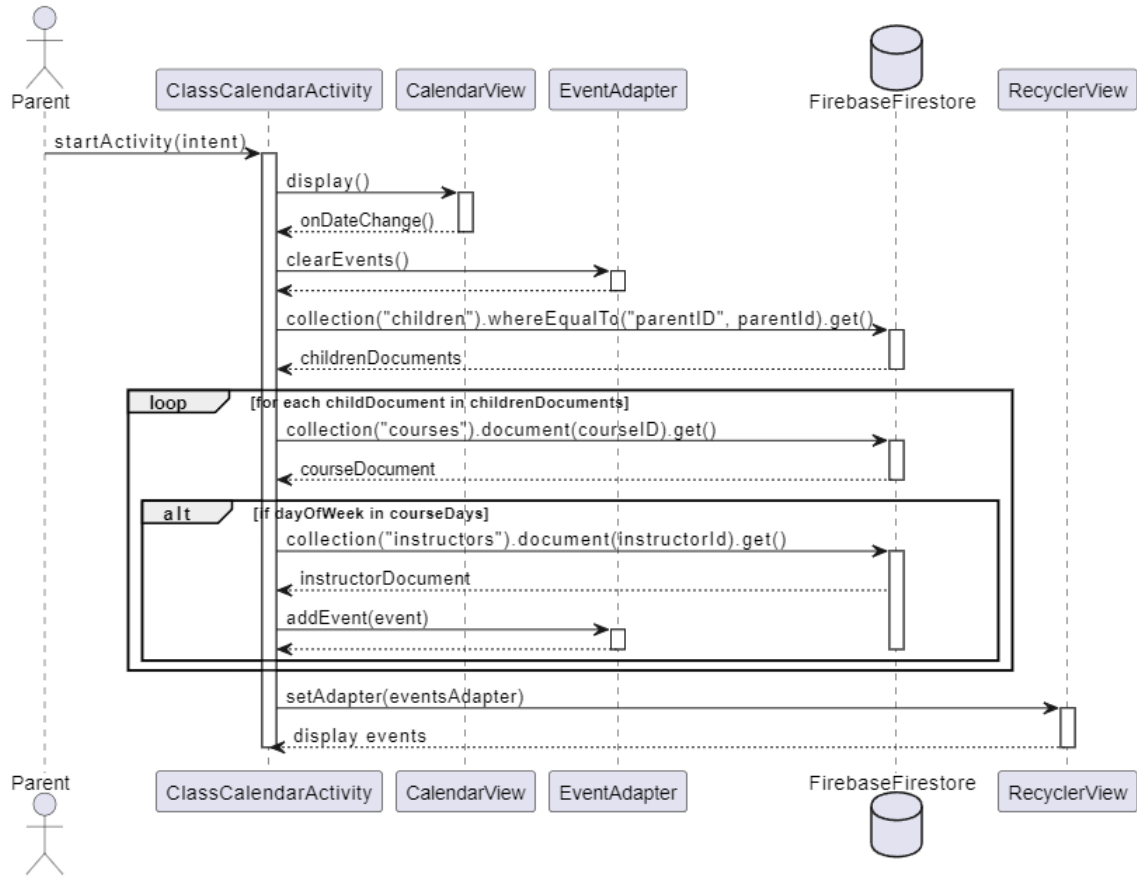
System	SportKids Mobile
Use Case	View Child Attendance
Actors	Parent
Data	<ul style="list-style-type: none"> • Input: Request to view child's attendance record • Processing: Retrieve attendance data from the system • Output: Display of attendance records
Stimulus	Parent wishes to monitor their child's attendance.
Response	System shows the attendance records for the child.
Comments	Important for parents to track their child's participation and follow up on absences.

System	SportKids Mobile
Use Case	View Trainers Information
Actors	Parent
Data	<ul style="list-style-type: none"> • Input: Request to view information about trainers • Processing: Retrieve trainer profiles from the database • Output: Display of trainer information
Stimulus	Parent wants to know more about the trainers teaching their child.
Response	System provides profiles of trainers.
Comments	Builds trust and engagement between parents and trainers.

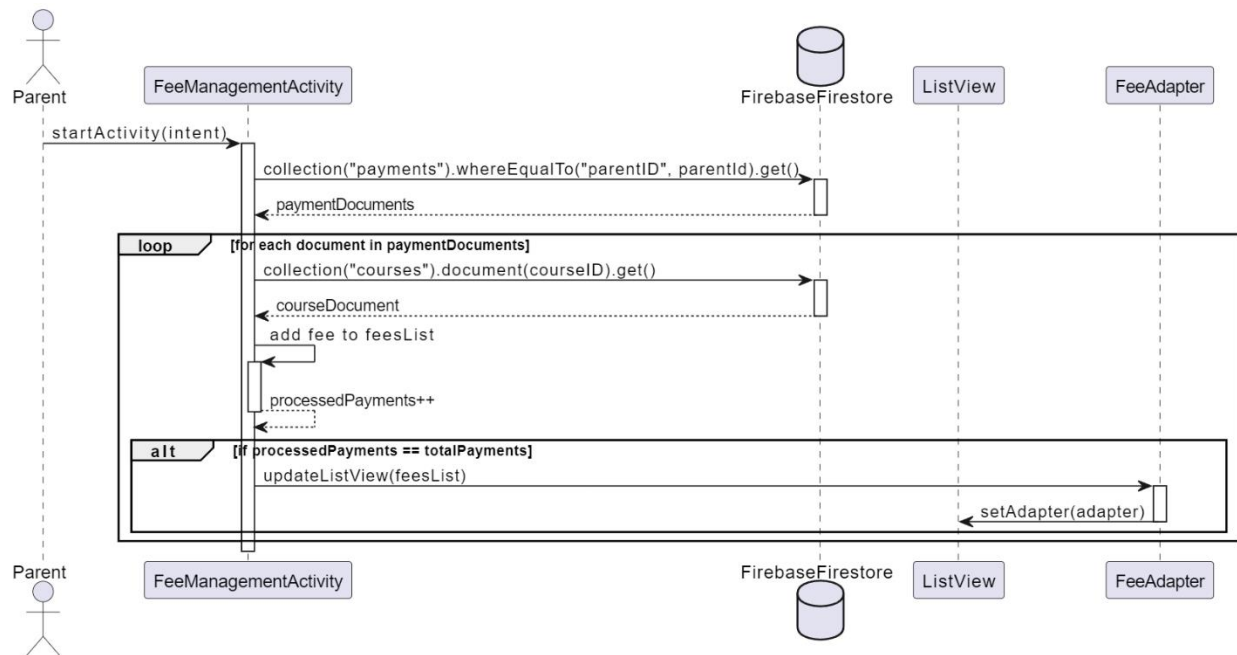
System	SportKids Mobile
Use Case	Send Message to Admin through Help &Support
Actors	Parent
Data	<ul style="list-style-type: none"> • Input: Message content and recipient (admin) details • Processing: Deliver message to admin through the system • Output: Confirmation of message sent
Stimulus	Parent has a query or needs assistance that requires admin intervention.
Response	Admin receives the message and can respond accordingly.
Comments	Ensures clear communication channels for support and feedback.

3) SEQUENCE DIAGRAMS

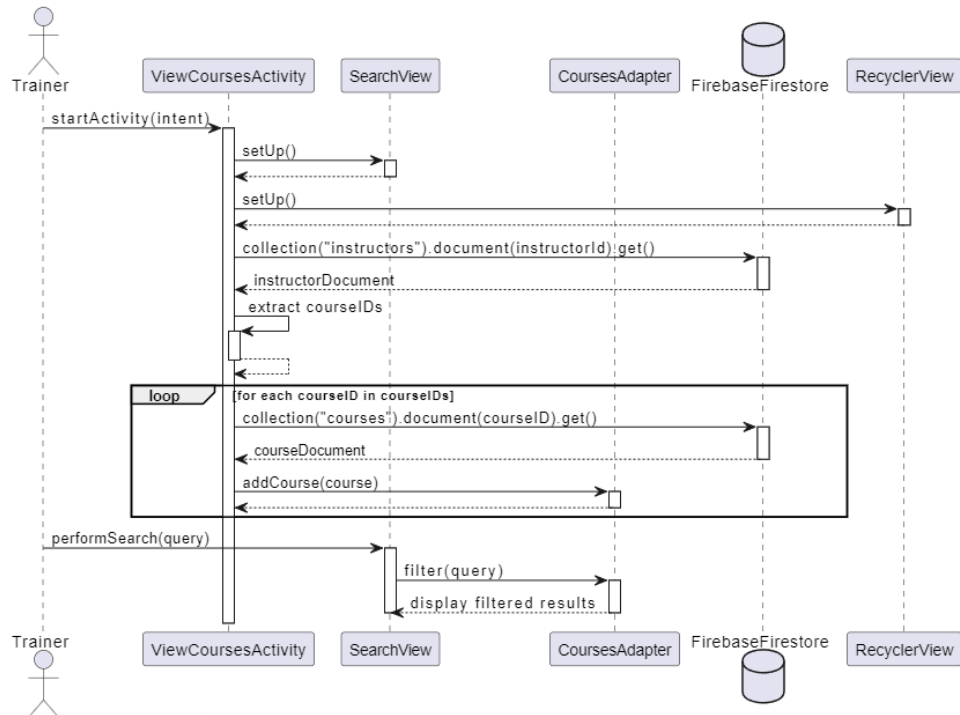
Parent Viewing Class Calendar



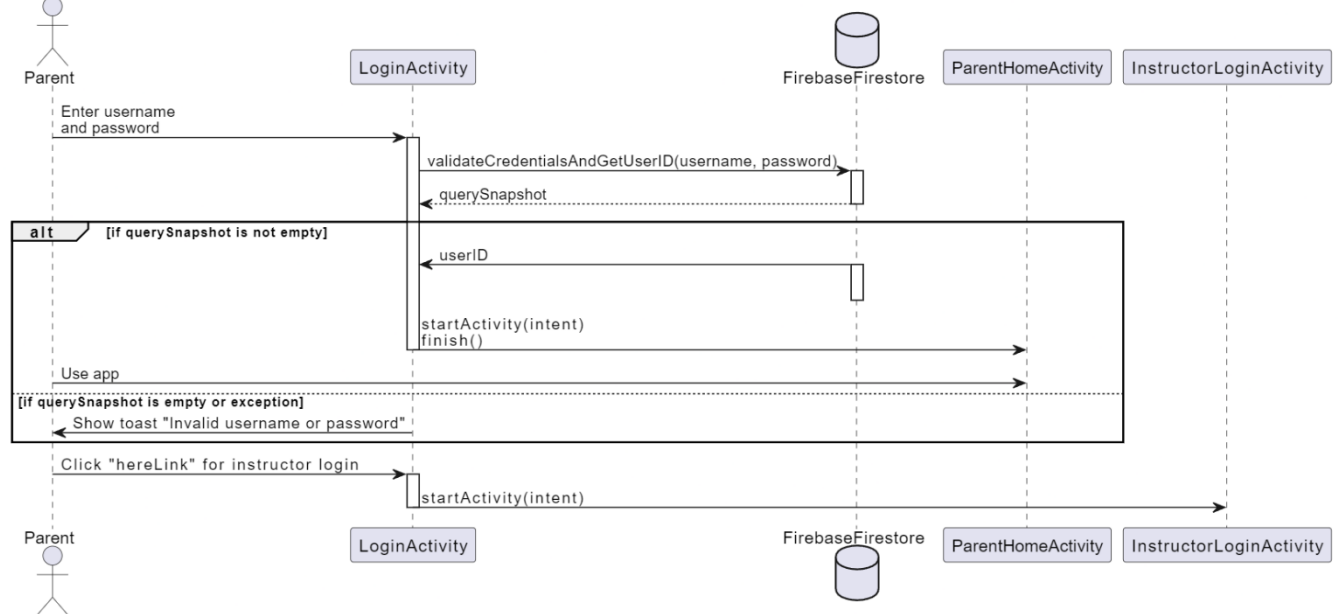
Parent Fee Management



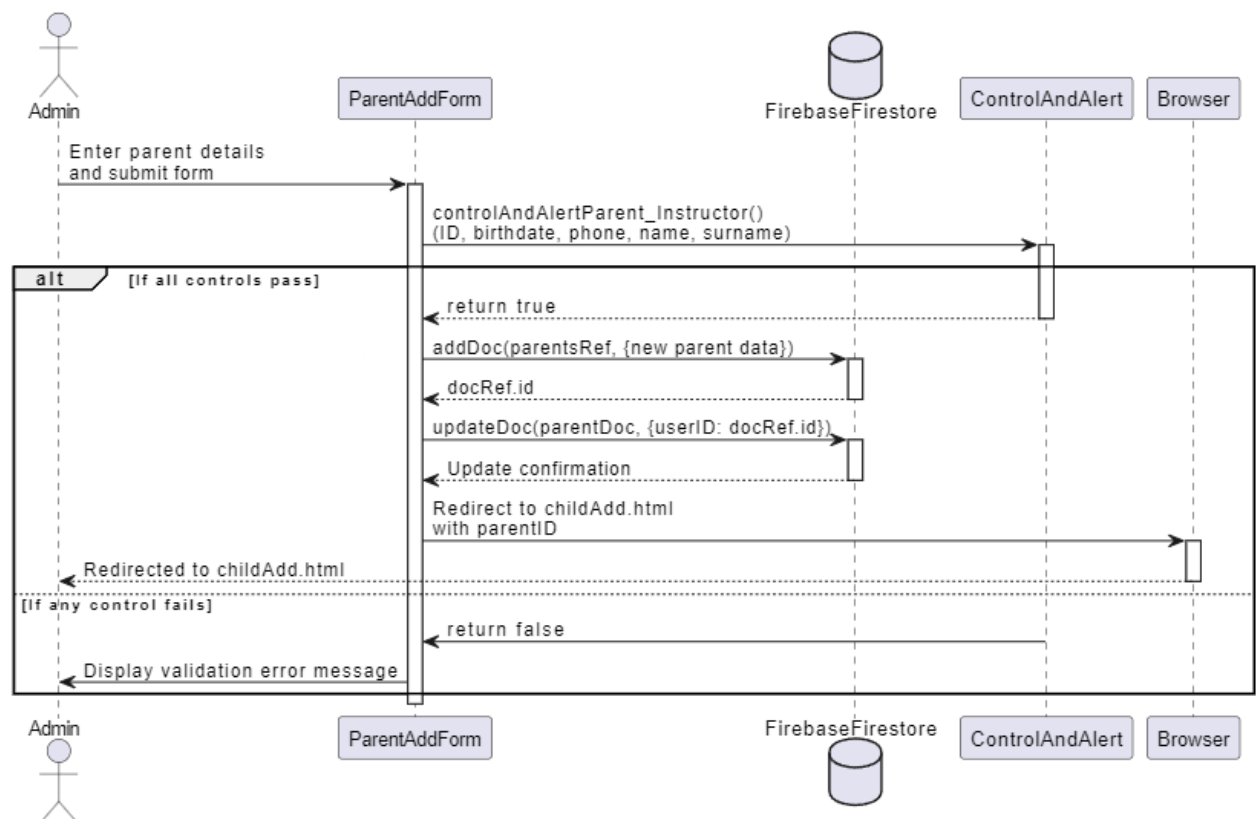
Trainer Viewing Courses



Login



Parent Add for Web



ACCESSIBILITY TO THE POTENTIAL USERS

Platform Details
https://github.com/BeyzaAcar/SoftwareProject
Project URL: https://sportkidsapp.web.app/
Database: Firestore Database
Server: Google Cloud

MEMBERS OF THE TEAM

Name	Student ID
Gülnihal AKDEM	1901042253
Ali Asım COŞKUN	200104004067
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Beyza ACAR	200104004065