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Student Activity Manager

System Report

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# Executive Summary

The Student Activity Manager System is a comprehensive system that aims to simplify and streamline student record management for educational institutions. This system provides a user-friendly interface that allows students, teachers, parents, and activity providers to access relevant information related to their respective roles. The system features several modules, including student management, course management, and scheduling, among others. The system also supports the management of extra-curricular activities, which allows schools to track and manage various activities offered to students outside the classroom. An activity manager system can provide many benefits to parent users by helping them stay organized, save time, and communicate more efficiently.

The proposed system offers a range of features and functionalities that can significantly reduce the administrative burden on educational institutions and improve the overall efficiency and effectiveness of their operations.

# Design Analysis Process

## Software Development Life Cycle

The Student Activity Manager system was being built with Agile Method of Software Development Life Cycle. The agile SDLC is ideal for this system with changing requirements, where collaboration and feedback are critical, and where the end-users' involvement is essential. The agile approach emphasizes flexibility, continuous improvement, and rapid delivery of working software.

## Business Case

Student Activity Manager is an efficient and effective solution for managing student records, scheduling classes and extra-curricular activities, and viewing enrolments to courses and activities. By implementing this system, the institution can streamline administrative tasks, reduce errors and redundancies, improve communication between stakeholders, and enhance the educational experience for students, parent and teachers.

The system would also provide valuable insights to improve outcomes, such as optimizing course/activities offerings and schedules, and ensuring compliance with regulations and policies.

In addition, the system can help to enhance the institution's reputation and competitiveness, as it demonstrates a commitment to modernizing and innovating its operations, which can attract and retain students, faculty, and staff. The business case for this system is to improve efficiency, effectiveness, and student outcomes, while also contributing to the overall success of the educational institution.

An activity manager system can provide several benefits to parent users:

* Efficient scheduling: help parents schedule activities and appointments for their children in an organized manner. With an activity manager system, parents can easily view their child's activities and schedules for the week or month, helping them plan their own schedules accordingly.
* Timesaving: By using an activity manager system, parents can save time by not having to keep track of their child's activities and appointments manually. This can free up time for parents to focus on other tasks, such as work or household responsibilities.
* Easy communication: An activity manager system can provide a straightforward way for parents to communicate with their child's teachers, coaches, and other activity leaders. This can help parents stay up to date with their child's progress and any changes or updates to their schedule.
* Increased organization: An activity manager system can help parents stay organized by keeping all their child's activities and appointments in one place. This can help prevent double bookings or missed appointments.
* Better coordination: An activity manager system can help parents coordinate activities and schedules with other family members or caregivers. This can help ensure that everyone is on the same page and can plan their schedules accordingly.

## User Cases

### Use cases for students:

* 1. View their personal information (name, email, phone, address, etc.)
  2. View their academic enrolment.
  3. View available courses for the student.
  4. View their academic course schedule.
  5. View their after-school activity schedule.
  6. Search for other available activities that may be interested.

### Use cases for teachers or instructors:

* 1. View their courses.
  2. Manage their courses (create, modify, or delete course details)
  3. View their course enrolments.
  4. Manage their course enrolments.
  5. View their students (access their personal information, communicate with them via email, class schedule.)
  6. View afterschool activities.
  7. Manage afterschool activities. (Create, modify, or delete course details)
  8. View student’s parents’ information.
  9. After School Activities’ popularity ranking
  10. Difference between girl and boy after school activity numbers
  11. Hours spent on after school activities.
  12. Difference of hours spent on after school activities between students aged 12 and above and aged below 12

### Use cases for parents or guardians:

* 1. View their children's personal information (name, email, phone, address, etc.)
  2. View and manage their children's course enrolments.
  3. View their children’s schedule.
  4. View the courses and after-school activities teachers or instructors.
  5. View available after school activities that their child did not joined.

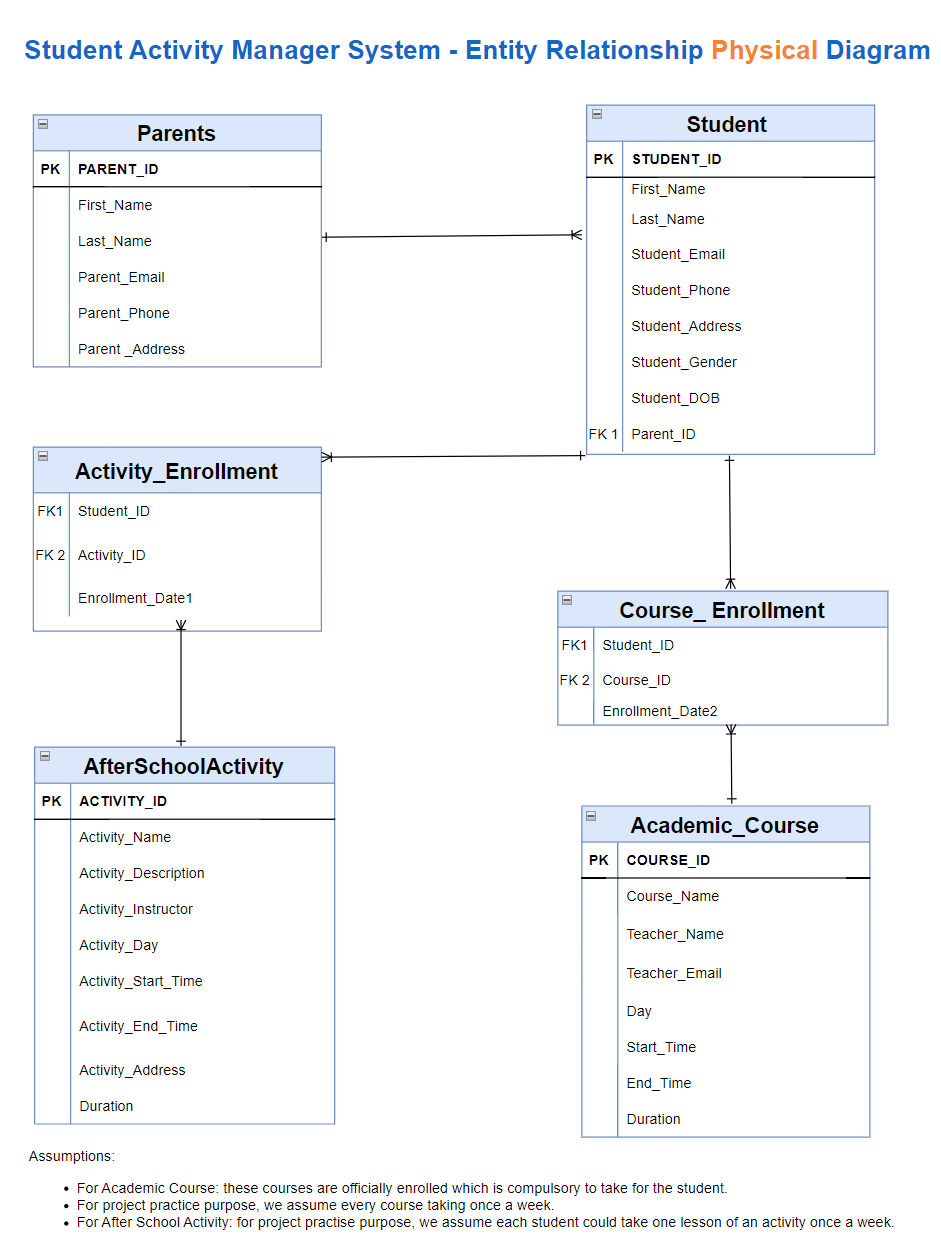
## User Stories

* + A working mother of two children who are enrolled in various extracurricular activities. She uses the Activity Manager system to stay informed about upcoming events, practices, and games. She can also communicate with activity leaders or coaches through the platform, asks questions, and receive updates. This helps the mother manage her busy schedule more effectively and ensure that her children never miss an important activity.
* A family has two children who are involved in various extracurricular activities, and both parents work full-time. They use the Activity Manager system to coordinate their family schedule and ensure that everyone is on the same page. For example, they use the system to view their children's activity schedules, coordinate transportation, and communicate with activity leaders or coaches. This helps the Smiths manage their busy family schedule more effectively and ensure that no one misses an important activity. Additionally, the system allows the Smiths to stay informed about their children's progress and activities, so they can be more involved in their children's lives.
* A high school student who is involved in multiple extracurricular activities, including sports, music, and community service. She wants to manage her time effectively to balance her academic work and extracurricular activities. She uses the Activity Manager system to have an overview of her schedule.
* A music teacher who offers private lessons to students of all ages. She needs to view her students' schedules, which helps her manage her own schedule and avoid scheduling conflicts. When she logs into the system, she can view each student's schedule, including their academic classes, extracurricular activities, and other commitments. This allows her to schedule lessons at a time that works for both her and the student, without conflicting with other activities.
* A school is a large public school with many extracurricular activities available to students. They need to manage their extracurricular programs, including sports teams, music ensembles, and clubs. When a student signs up for an extracurricular activity, the system automatically updates their schedule to reflect the commitment. This allows students, parents, and teachers to easily see when a student is occupied with an extracurricular activity and when they are available for academic classes. School can efficiently manage their extracurricular programs and ensure that students have access to a wide range of activities that support their academic and personal growth.

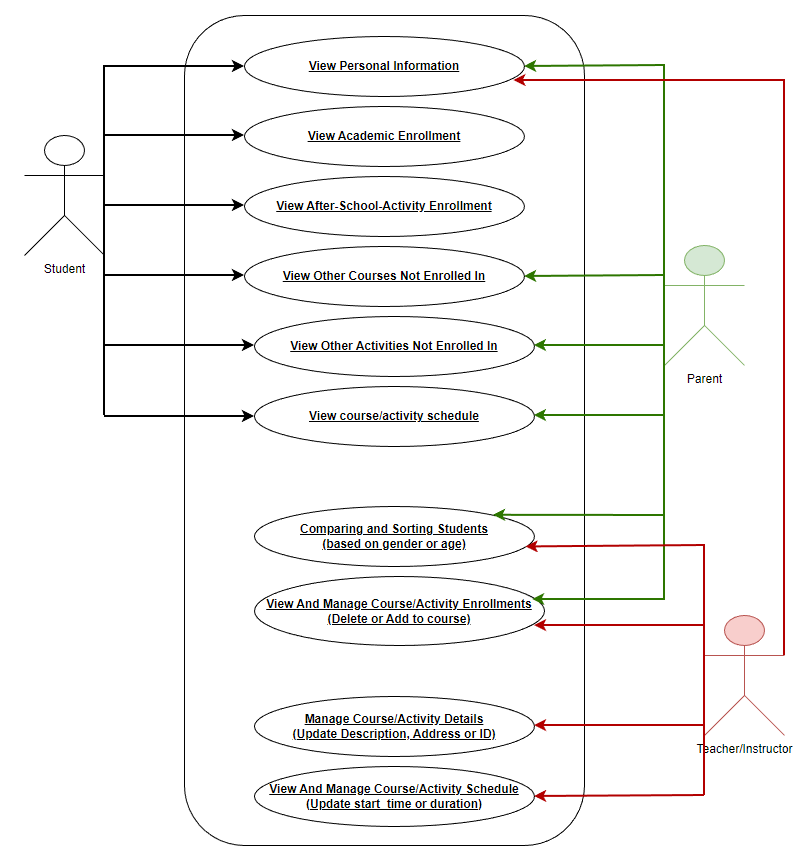
## Entity Relationship Diagram

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## Use Case Diagram



## Functional And Non-Functional Requirements:

### Functional Requirements:

* Ability to store and manage student information, including personal details, academic courses and activities, and schedules.
* Ability to schedule classes and register students for classes.
* Ability to create and manage student and parent profiles, including their contact information.
* Ability to manage after-school activities and its instructors.
* Ability to provide a user-friendly interface for all system users.

### Non-Functional Requirements:

* **Security**: The system would be designed to be secure, with appropriate measures in place to prevent unauthorized access and protect the privacy of student and educator information.
* **Reliability:** The system would be always reliable and available, with minimal downtime or service interruptions.
* **Performance:** The system would be able to handle many users and data volumes without performance issues.
* **Scalability**: The system would be scalable to support future growth and changing needs.
* **Usability:** The system would be easy to use and navigate for all users, with intuitive interfaces and clear documentation.
* **Accessibility**: The system would be accessible to all users.
* **Compatibility:** The system would be compatible with various devices, platforms.
* **Maintainability**: The system would be easy to maintain and update, with well-documented code.

## Actors

* Parents or guardians: Parents or Guardians would be the primary users of the system, they could view their child's schedule, sign them up for activities, and see the upcoming events or changes to schedules. Contribute to their time management and family members’ coordination.
* Students: they would use it to sign up for extracurricular activities or academic courses and view their schedules.
* Teachers or Instructor’s: Teachers or Instructor’s would use the system to view students' schedules and ensure that academic classes are scheduled around extracurricular activities.

## Events

### Internal Events

* New student enrolment
* Updating Student information
* Faculty or staff changes (new hires, resignations)
* Enrolment of a student
* Updating of student information
* Addition or removal of an instructor

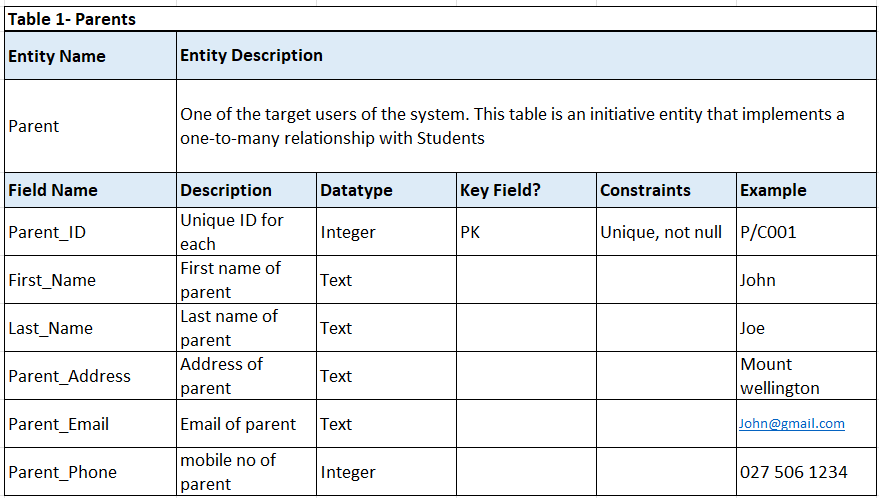
### External Events

* Updating about the changes to schedules due to harsh weather.
* Informing about one’s health if students are not well.
* Due to Traffic, one can miss or coming late to attend class.

### Temporal Events

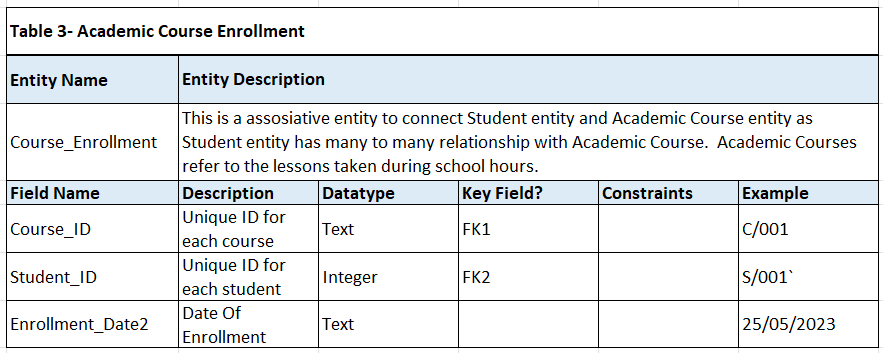
* Notification about the cancelation of meeting due to some circumstances.

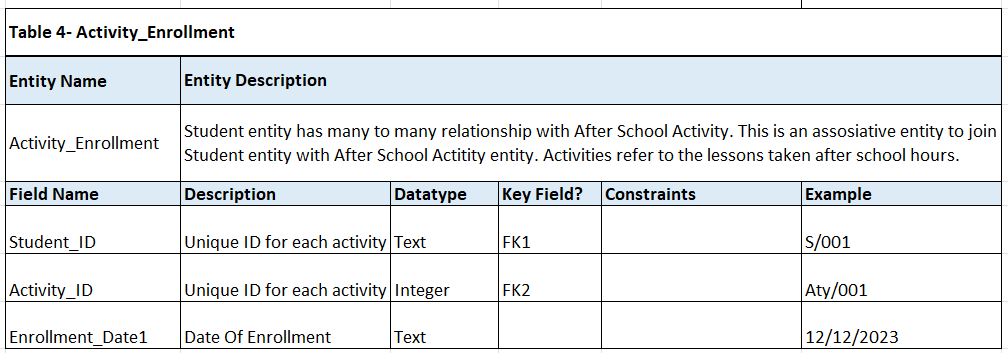
## Table Designs – Data Dictionary



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## Contributions

### Harshil Dholakiya

* **Proposal File** (What information will the system offer the user, what data will be stored by the system)
* **Entity Relationship Diagram** (Logical and Physical)
* **Creating Tables**
* **Inserting Data** (To Activity Enrolment, and Parents Tables)
* **Report File** (Business Case, SDLC, Making Use-Case Diagram with Gagandeep.)

### Liman Wu

* **Proposal File** (Introduction, what comparable systems are available, Use-Case Diagram)
* **Entity Relationship Diagram** (Logical and Physical)
* **Creating Tables**
* **Inserting Data** (To Course Enrolment, and Student Tables)
* **Report File** (Data Dictionary, Events User-Stories)

### Arshdeep Singh

* **Proposal File** (What is our system idea in a nutshell, Where the data will come from)
* **Entity Relationship Diagram** (Logical and Physical)
* **Creating Tables**
* **Inserting Data** (To After School Activity Table)
* **Report File** (Functional and Non-Functional Requirements, Data Dictionary (helped Liman))

### Gagandeep Kaur

* **Proposal File** (List of use cases for system, who are the target users/actors)
* **Entity Relationship Diagram** (Logical and Physical)
* **Creating Tables**
* **Inserting Data** (To Academic Course)
* **Report File** (User-Stories, Actors)
* **Writing queries for every use-case has been done by everyone individually.**

## References

* Student Record Management Systems: Definition, Benefits, and Top Tools:

<https://www.slideshare.net/JulietNandutu/student-record-management-system-1-63051646>