

DATABASE SYSTEMS

5COSC020C

PART A

EERD Diagram

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Table of Contents

Type chapter title (level 1)	1
Type chapter title (level 2)	2
Type chapter title (level 3)	3
Type chapter title (level 1)	4
Type chapter title (level 2)	5
Type chapter title (level 3)	6

Table of Figures

Figure 1: Business Questions.....	4
Figure 2: Answers for Business Questions 1.0	5
Figure 3: Answers for Business Questions 1.1	6
Figure 4: Conceptual Enhanced Entity Relationship Diagram	7

Business question and answers

Question - 1. How does the system distinguish between different types of caretakers responsible for park and court maintenance?

- Answer - 1. The system identifies caretakers by specialization. There are distinct entities for full-time and part-time caretakers, who may either be court caretakers or equipment caretakers. This classification ensures that each type of caretaker is allocated specific maintenance responsibilities, improving organization and resource allocation.

Question - 2. What role do instructors play in supervised sessions, and how are they categorized?

- Answer - 2. Instructors lead supervised sessions, either as part of personal training or group sessions. Instructors are categorized as full-time or part-time, allowing flexibility in session scheduling. This distinction helps manage instructor availability and ensures proper training resources for each session type.

Question - 3. How does the system track and manage court usage across different sports like tennis and pickleball?

- Answer - 3. Courts are classified based on their suitability for tennis, pickleball, or both. Each court's type is documented, and the booking system ensures that players reserve courts aligned with their sports preferences. This categorization optimizes court allocation and reduces scheduling conflicts.

Question - 4. What is the structure and purpose of block bookings, and how does the system track these sessions?

- Answer - 4. Block bookings allow players to reserve multiple unsupervised sessions ahead of time. The system maintains a sequence of these bookings, enabling continuity and easier access to preferred playtimes. This feature is beneficial for players looking to

secure consistent court availability.

Question - 5. How are equipment pieces assigned and tracked across different courts, and what information is logged for each piece?

- Answer - 5. Each piece of equipment is assigned to a specific court. Equipment is categorized as either fixed or movable, with a unique record for each item. Logs include maintenance history and specific allocation details, helping track equipment status and movement between courts.

Question - 6. What is the purpose of categorizing supervised group sessions into fitness-play, group coaching, and social fun, and how does it benefit players?

- Answer - 6. Categorizing supervised group sessions allows players to choose sessions aligned with their objectives. Fitness play focuses on physical activity, group coaching on skill improvement, and social fun on social engagement within a relaxed environment. This structure enhances player satisfaction by addressing diverse player interests and fostering a well sporting experience.

Blackboard Uploaded Questions and Answers



Silpadhipathi Piyathunga

3 minutes ago, at 15:34

Name – Sachintha Chamod

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Q1. How does the system distinguish between different types of caretakers responsible for park and court maintenance?

Q2. What role do instructors play in supervised sessions, and how are they categorized?

Q3. How does the system track and manage court usage across different sports like tennis and pickleball?

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Q5. How are equipment pieces assigned and tracked across different courts, and what information is logged for each piece?

Q6. What is the purpose of categorizing supervised group sessions into fitness-play, group coaching, and social fun, and how does it benefit players?

Figure 1: Business Questions

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- Answer - 1. The system identifies caretakers by specialization. There are distinct entities for full-time and part-time caretakers, who may either be court caretakers or equipment caretakers. This classification ensures that each type of caretaker is allocated specific maintenance responsibilities, improving organization and resource allocation.
- Answer - 2. Instructors lead supervised sessions, either as part of personal training or group sessions. Instructors are categorized as full-time or part-time, allowing flexibility in session scheduling. This distinction helps manage instructor availability and ensures proper training resources for each session type.
- Answer - 3. Courts are classified based on their suitability for tennis, pickleball, or both. Each court's type is documented, and the booking system ensures that players reserve courts aligned with their sports preferences. This categorization optimizes court allocation and reduces scheduling conflicts.
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Figure 2: Answers for Business Questions 1.0

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classification ensures that each type of caretaker is allocated specific maintenance responsibilities, improving organization and resource allocation.

- Answer - 2. Instructors lead supervised sessions, either as part of personal training or group sessions. Instructors are categorized as full-time or part-time, allowing flexibility in session scheduling. This distinction helps manage instructor availability and ensures proper training resources for each session type.
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- Answer - 6. Categorizing supervised group sessions allows players to choose sessions aligned with their objectives. Fitness play focuses on physical activity, group coaching on skill improvement, and social fun on social engagement within a relaxed environment. This structure enhances player satisfaction by addressing diverse player interests and fostering a well sporting experience.

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Figure 3: Answers for Business Questions 1.1

Conceptual Enhanced Entity Relationship Diagram (EERD)

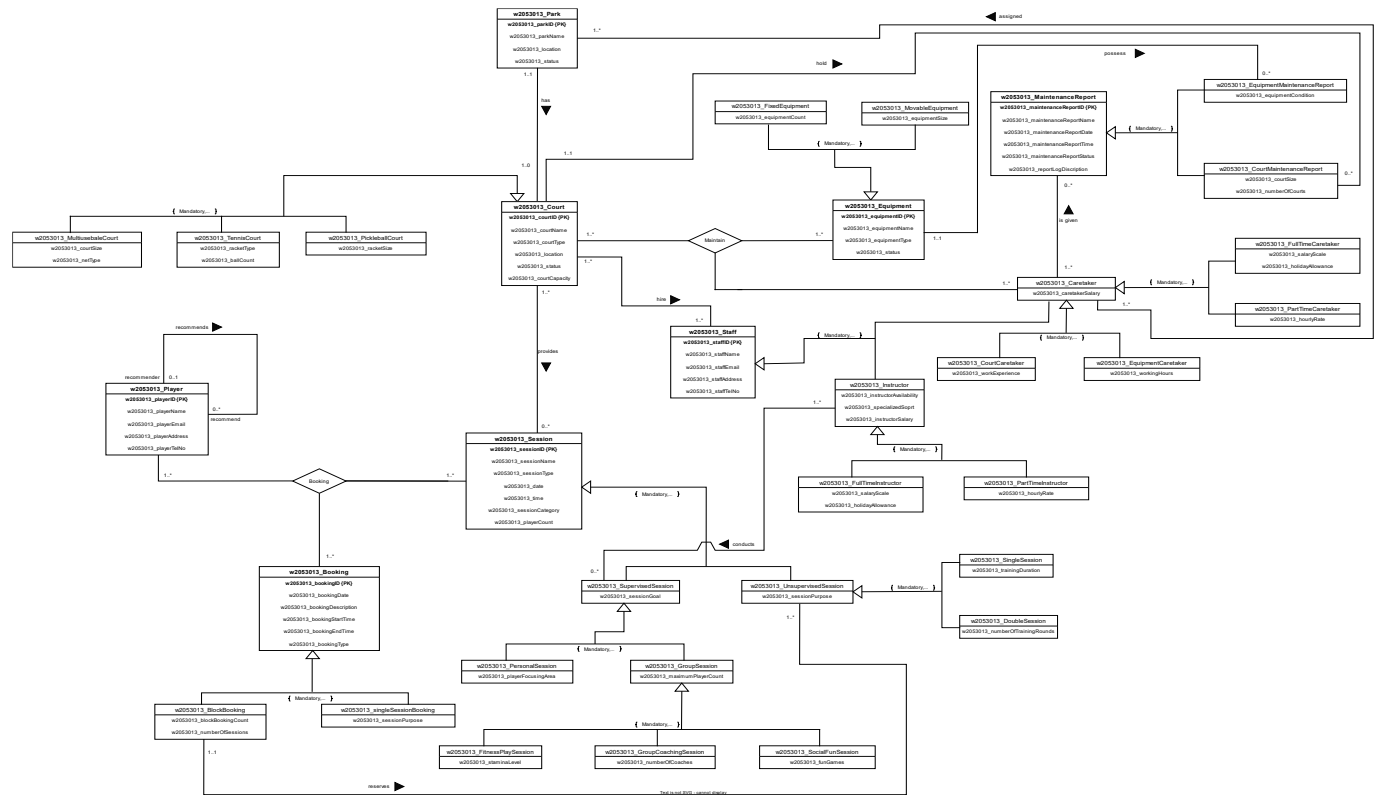


Figure 4: Conceptual Enhanced Entity Relationship Diagram



Database CW part A
(EERD).drawio

Assumptions of EERD

1. Court and Session

- Each court may provide no sessions, but it can also be associated with multiple sessions. A session, however, must be provided by at least one court.

2. Court, Caretaker, and Equipment

- A caretaker is responsible for maintaining both courts and equipment. Each caretaker must hold at least one court and one piece of equipment.

3. Caretaker and MaintenanceReport

- A caretaker can be given zero or many maintenance reports. Each maintenance report must be given to at least one caretaker and can be linked to multiple caretakers.

4. Staff, Caretaker, and Instructor

- Caretakers and instructors are staff members associated with courts. Additionally, other staff members may also be associated with courts.

5. MaintenanceReport, EquipmentMaintenanceReport, and CourtMaintenanceReport

- Caretakers are required to be given separate maintenance reports for equipment and courts. Each maintenance report must include an equipment maintenance report and a court maintenance report. At least one of these two reports is required within each maintenance report.

6. Court and Staff

- Each court is required to have at least one staff member and may have multiple staff members. Similarly, each staff member can be hired to work with at least one court and may work with multiple courts.

7. Instructor and SupervisedSession

- Instructors may conduct zero or multiple supervised sessions. Each supervised session must have at least one instructor and may have multiple instructors.

8. Park and Caretaker

- Each caretaker is assigned to at least one park and may be assigned to multiple parks. Each park must have at least one caretaker and may have multiple caretakers.

9. BlockBooking and UnsupervisedSession

- Players reserve block bookings that include at least one unsupervised session and may include multiple unsupervised sessions. Each unsupervised session can be reserved by one block booking at most.

10. Player, Booking, and Session

- Each player books at least one session and may book multiple sessions. A session can be booked by at least one player through at least one booking and may involve multiple bookings. Each booking must include at least one session and must be associated with at least one player, with the possibility of including multiple players.