

Yacht club management system

1. Requirements

The yacht club “The jolly pirate” wants to have a management system that will help to keep track of all the internal processes. The system should make it easy for members to manage their boats and membership fee payments, see all the events and be an active part of a club. The secretaries should have an opportunity to create those events and manage them.

Functional requirements

The system must

- Pay membership fee
- Register a boat
- Remove a boat
- Manage calendar event
- View Calendar Events

Non-functional requirements

The system should be

- Intuitive to use the system
- Available 24/7
- Updatable

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2. Use cases

Use case 1:

Title: Pay membership fee

Primary Actor: Member

Success Scenario:

1. The member wants to pay their dues.
2. The system presents a total amount of membership, which is affected by the number of boats owned by the member.
3. The member chooses to pay via cash.
4. The system updates the member's pay status to paid and presents a receipt of the payment.

Use case 2:

Title: Register a Boat

Primary Actor: Member

Success Scenario:

1. A member wants to register a new boat.
2. The system asks for Boat Details.
3. The member inputs the boat's size and type (sailboat, motorsailer, powerboat, kayak/canoe, etc.).
4. The system presents the information for the boat to be registered.
5. The member confirms the correct information.
6. The System registers the boat and presents a confirmation.

Use case 3:

Title: Remove a boat

Primary Actor: Member

Success Scenario:

1. A member wants to remove one of their registered boats.
2. The system asks for boat details.
3. The member inputs the boat's size and type (sailboat, motorsailer, powerboat, kayak/canoe, etc.).
4. The system confirms the existence of such a boat.
5. The system removes the boat and shows a confirmation message.

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Use case 4:

Title: Manage calendar event

Primary Actor: Secretary

Success Scenario:

- The secretary adds and deletes events from calendar event.
- Boat club calendar is updated.

Use case 5:

Title: View Calendar Events

Primary Actor: Member

Success Scenario:

- The member wants to view all details for a particular calendar event.
- Calendar events are presented including start and end dates.

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3. Classes, and relationships in the system. CRC cards.

We have the following classes:

- Member
- MembershipFee
- Boat
- Secretary
- CalendarEvent

CRC cards:

Member	
Responsibilities	Collaborators
Pays membership fees	MembershipFee
Owns boats	Boat
Views calendar events	CalendarEvent

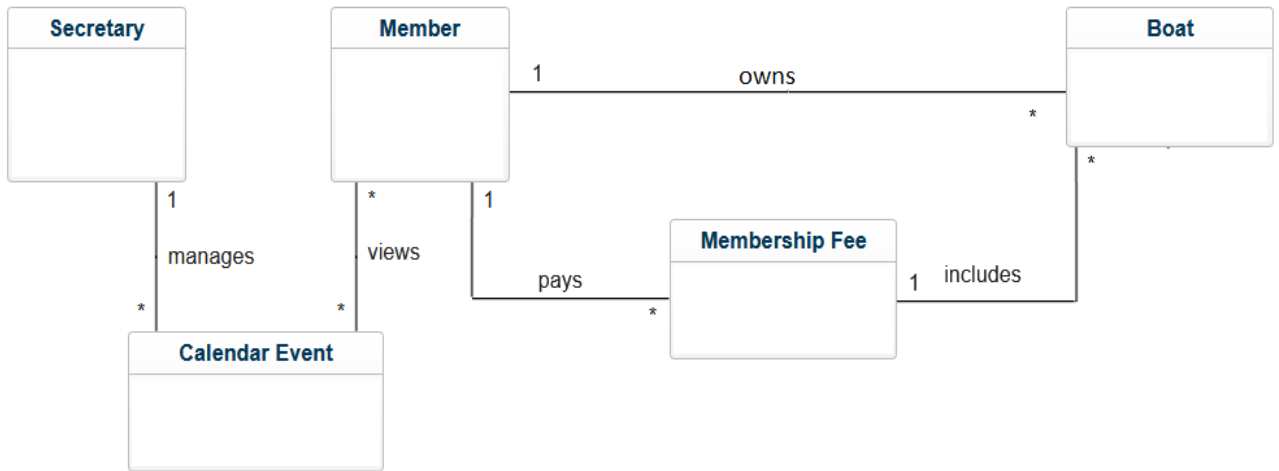
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MembershipFee	
Responsibilities	Collaborators
Includes boats	Boat

Secretary	
Responsibilities	Collaborators
Manages calendar events	CalendarEvents

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The Domain Model of the system



Explanations:

A member pays several membership fees(over time) and a membership fee is paid by a member.

A membership fee includes several boats(the number of boats affects the membership fee) and a boat can only be included in one membership fee.

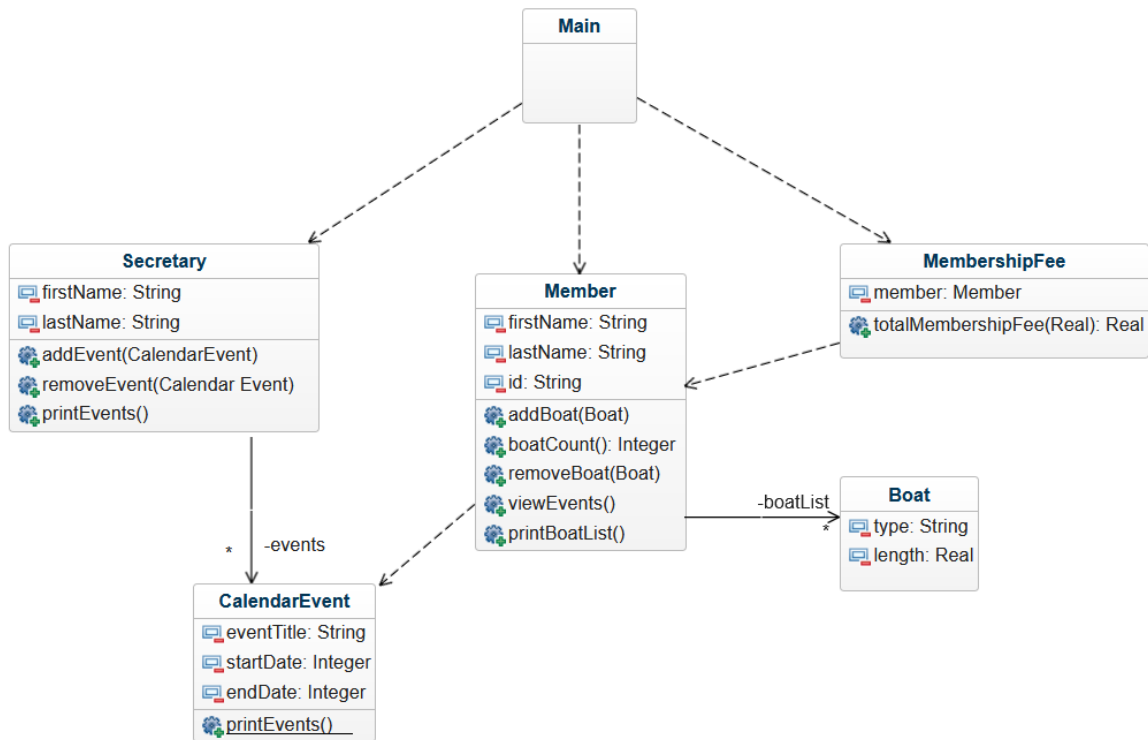
A member can own several boats.

Many members can view many calendar events.

A Secretary manages many calendar events(over time)

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4. Class diagrams picturing classes, their attributes, and relations in the system.



where -----> is a dependency,

and —————> is an association (in this case Strategy contains an attribute `ArrayList<CalendarEvent>` named `events` and Member contains an attribute `ArrayList<Boat>` named `boatList`)