

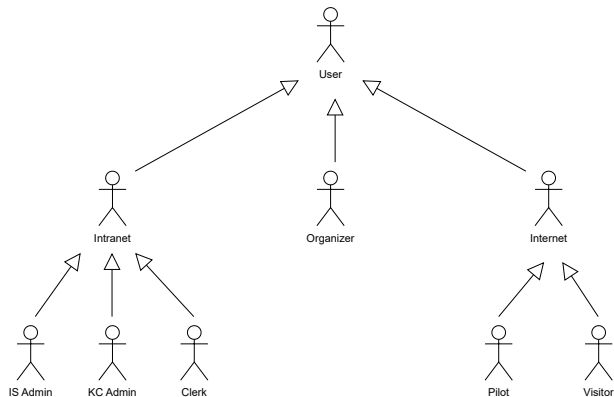
Karting report

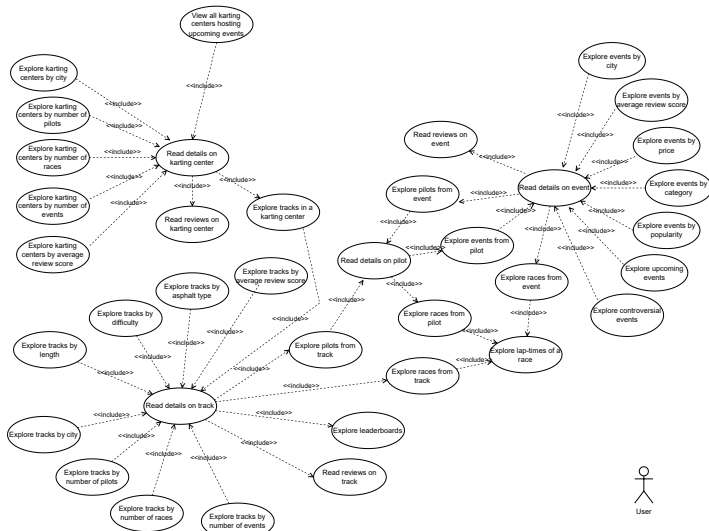
Denis Festa

January 31, 2024



User groups





Specification sheet

Title	Explore karting centers by city
Goal	The user seeks karting centers selecting one city at a time.
Precondition	The user is in the area (of the public view) dedicated to karting centers.
Postcondition	The user obtains the list of karting centers from which he can move on.
Workflow	<ul style="list-style-type: none">- The user moves to the area dedicated to karting centers.- The user selects a city.

Specification sheet

Title	Explore karting centers by number of races
Goal	The user seeks karting centers selecting one range of number of races (that were hosted on any of the tracks of the karting center) at a time.
Precondition	The user is in the area (of the public view) dedicated to karting centers.
Postcondition	The user obtains the list of karting centers from which he can move on.
Workflow	<ul style="list-style-type: none">- The user moves to the area dedicated to karting centers.- The user selects a range of number of races.

Specification sheet

Title	Explore karting centers by number of pilots
Goal	The user seeks karting centers selecting one range of number of pilots (who had a race on any of the tracks of the karting center) at a time.
Precondition	The user is in the area (of the public view) dedicated to karting centers.
Postcondition	The user obtains the list of karting centers from which he can move on.
Workflow	<ul style="list-style-type: none">- The user moves to the area dedicated to karting centers.- The user selects a range of number of pilots.

Title	Explore karting centers by number of events
Goal	The user seeks karting centers selecting one range of number of events (that had at least one race hosted on any of the tracks of the karting center) at a time.
Precondition	The user is in the area (of the public view) dedicated to karting centers.
Postcondition	The user obtains the list of karting centers from which he can move on.
Workflow	<ul style="list-style-type: none">- The user moves to the area dedicated to karting centers.- The user selects a range of number of events.

Title	Explore karting centers by average review score
Goal	The user seeks karting centers selecting one range of average review scores (given to the karting center by all the pilots that had at least one race on one of the tracks of the karting center) at a time.
Precondition	The user is in the area (of the public view) dedicated to karting centers.
Postcondition	The user obtains the list of karting centers from which he can move on.
Workflow	<ul style="list-style-type: none">- The user moves to the area dedicated to karting centers.- The user selects a range of scores (the ranges are the same for karting centres, tracks and events).

Specification sheet

Title	View all karting centers hosting upcoming events
Goal	The user scrolls through the list of karting centers that are going to host an upcoming event.
Precondition	The user already has this information in the homepage.
Postcondition	The user obtains the list of karting centers from which he can move on.
Workflow	- The user reaches the homepage.

Title	Read details on karting center
Goal	The user chooses one karting center to focus on and reads its details.
Precondition	The user chose a karting center from a list of karting centers (obtained from any of the previous use cases).
Postcondition	The user obtains the details on the karting center and can move on to other related informations (e.g. tracks, reviews)
Workflow	- The user chooses one karting center from a list.

Specification sheet

Title	Read reviews on karting center
Goal	The user chooses one karting center to focus on and scrolls the reviews it received.
Precondition	The user chose a karting center from a list of karting centers (obtained from any of the previous use cases).
Postcondition	The user obtains the reviews on the karting center in the area dedicated to reviews.
Workflow	- The user moves from the page dedicated to the details of the karting center to the page dedicated to reviews through a click.

Specification sheet

Title	Explore tracks in a karting center
Goal	The user chooses one karting center to focus on and explores the tracks it offers.
Precondition	The user chose a karting center from a list of karting centers (obtained from any of the previous use cases).
Postcondition	The user obtains the tracks offered by the karting center in the area dedicated to tracks.
Workflow	- The user moves from the page dedicated to the details of the karting center to the page dedicated to tracks through a click.

Specification sheet

Title	Explore tracks by asphalt type
Goal	The user seeks tracks selecting one asphalt type at a time.
Precondition	The user is in the area (of the public view) dedicated to tracks.
Postcondition	The user obtains the list of tracks from which he can move on.
Workflow	<ul style="list-style-type: none">- The user moves to the area dedicated to tracks.- The user selects an asphalt type.

Specification sheet

Title	Explore tracks by difficulty
Goal	The user seeks tracks selecting one difficulty at a time.
Precondition	The user is in the area (of the public view) dedicated to tracks.
Postcondition	The user obtains the list of tracks from which he can move on.
Workflow	<ul style="list-style-type: none">- The user moves to the area dedicated to tracks.- The user selects a difficulty.

Specification sheet

Title	Explore tracks by length
Goal	The user seeks tracks selecting one range of lengths at a time.
Precondition	The user is in the area (of the public view) dedicated to tracks.
Postcondition	The user obtains the list of tracks from which he can move on.
Workflow	<ul style="list-style-type: none">- The user moves to the area dedicated to tracks.- The user selects a range of lengths.

Specification sheet

Title	Explore tracks by city
Goal	The user seeks tracks selecting one city at a time.
Precondition	The user is in the area (of the public view) dedicated to tracks.
Postcondition	The user obtains the list of tracks from which he can move on.
Workflow	<ul style="list-style-type: none">- The user moves to the area dedicated to tracks.- The user selects a city.

Specification sheet

Title	Explore tracks by number of races
Goal	The user seeks tracks selecting one range of number of races (that took place on the track) at a time.
Precondition	The user is in the area (of the public view) dedicated to tracks.
Postcondition	The user obtains the list of tracks from which he can move on.
Workflow	<ul style="list-style-type: none">- The user moves to the area dedicated to tracks.- The user selects a range of number of races.

Specification sheet

Title	Explore tracks by number of pilots
Goal	The user seeks tracks selecting one range of number of pilots (who had a race on the track) at a time.
Precondition	The user is in the area (of the public view) dedicated to tracks.
Postcondition	The user obtains the list of tracks from which he can move on.
Workflow	<ul style="list-style-type: none">- The user moves to the area dedicated to tracks.- The user selects a range of number of pilots.

Specification sheet

Title	Explore tracks by number of events
Goal	The user seeks tracks selecting one range of number of events (that had at least one race hosted on the track) at a time.
Precondition	The user is in the area (of the public view) dedicated to tracks.
Postcondition	The user obtains the list of tracks from which he can move on.
Workflow	<ul style="list-style-type: none">- The user moves to the area dedicated to tracks.- The user selects a range of number of events.

Specification sheet

Title	Explore tracks by average review score
Goal	The user seeks tracks selecting one range of average review scores (given to the track by all the pilots that had at least one race on the track) at a time.
Precondition	The user is in the area (of the public view) dedicated to tracks.
Postcondition	The user obtains the list of tracks from which he can move on.
Workflow	<ul style="list-style-type: none">- The user moves to the area dedicated to tracks.- The user selects a range of scores (the ranges are the same for karting centres, tracks and events).

Specification sheet

Title	Read details on track
Goal	The user chooses one track to focus on and reads its details.
Precondition	The user chose a track from a list of tracks (obtained from any of the previous use cases).
Postcondition	The user obtains the details on the track and can move on to other related informations (e.g. pilots, leaderboards, races, reviews)
Workflow	- The user chooses one karting center from a list.

Specification sheet

Title	Read reviews on track
Goal	The user chooses one track to focus on and scrolls the reviews it received.
Precondition	The user chose a track from a list of tracks (obtained from any of the previous use cases).
Postcondition	The user obtains the reviews on the tracks in the area dedicated to reviews.
Workflow	- The user moves from the area dedicated to the details of the track to the area dedicated to reviews through a click.

Specification sheet

Title	Explore leaderboards
Goal	The user chooses one track to focus on and explores the leaderboards associated to the track (leaderboards are filtering on the whole record of laptimes obtained by pilots in a race, a leaderboard can focus on the last month, the last year, sex, weight...)
Precondition	The user chose a track from a list of tracks (obtained from any of the previous use cases).
Postcondition	The user obtains the list of leaderboards in the area dedicated to leaderboards.
Workflow	- The user moves from the area dedicated to the details of the track to the area dedicated to leaderboards through a click.

Title	Explore races from track
Goal	The user chooses one track to focus on and explores the races that took place on the track.
Precondition	The user chose a track from a list of tracks (obtained from any of the previous use cases).
Postcondition	The user obtains the list of races in the area dedicated to races.
Workflow	- The user moves from the area dedicated to the details of the track to the area dedicated to races through a click.

Specification sheet

Title	Explore lap-times of a race
Goal	The user chooses one race to focus on and reads all the lap-times made by all the pilots that participated to the race.
Precondition	The user chose a race from a list of races (obtained from a track, an event or a pilot).
Postcondition	The user obtains the list of lap-times in the area dedicated to lap-times.
Workflow	- The user moves from the area dedicated to the details of the race to the area dedicated to lap-times through a click.

Title	Explore pilots from track
Goal	The user chooses one track to focus on and explores the pilots that had at least one race on the track.
Precondition	The user chose a track from a list of tracks (obtained from any of the previous use cases).
Postcondition	The user obtains the list of pilots in the area dedicated to pilots.
Workflow	- The user moves from the area dedicated to the details of the track to the area dedicated to pilots through a click.

Specification sheet

Title	Read details on pilot
Goal	The user chooses one pilot to focus on and reads its details.
Precondition	The user chose a pilot from a list of pilots (obtained from a track, a race, an event).
Postcondition	The user obtains the details on the pilot and can move on to other related informations (e.g. races, events).
Workflow	- The user chooses one pilot from a list.

Title	Explore events from pilot
Goal	The user chooses one pilot to focus on and explores the events that the pilot attended.
Precondition	The user chose a pilot from a list of pilots (obtained from a track, a race, an event).
Postcondition	The user obtains a list of events in the area dedicated to events.
Workflow	- The user moves from the area dedicated to the details of the pilot to the area dedicated to events through a click.

Title	Explore races from pilot
Goal	The user chooses one pilot to focus on and explores the races that the pilot had.
Precondition	The user chose a pilot from a list of pilots (obtained from a track, a race, an event).
Postcondition	The user obtains a list of races in the area dedicated to races.
Workflow	- The user moves from the area dedicated to the details of the pilot to the area dedicated to races through a click.

Specification sheet

Title	Explore events by city
Goal	The user explores events selecting one city at a time.
Precondition	The user is in the area (of the public view) dedicated to events.
Postcondition	The user obtains the list of events from which he can move on.
Workflow	<ul style="list-style-type: none">- The user moves to the area dedicated to events.- The user selects a city.

Specification sheet

Title	Explore events by average review score
Goal	The user explores events selecting one range of average review scores (given to the event by all the pilots that participated to it) at a time.
Precondition	The user is in the area (of the public view) dedicated to events.
Postcondition	The user obtains the list of events from which he can move on.
Workflow	<ul style="list-style-type: none">- The user moves to the area dedicated to events.- The user selects a range of scores (the ranges are the same for karting centres, tracks and events).

Specification sheet

Title	Explore events by price
Goal	The user explores events selecting one range of prices at a time.
Precondition	The user is in the area (of the public view) dedicated to events.
Postcondition	The user obtains the list of events from which he can move on.
Workflow	<ul style="list-style-type: none">- The user moves to the area dedicated to events.- The user selects a range of prices.

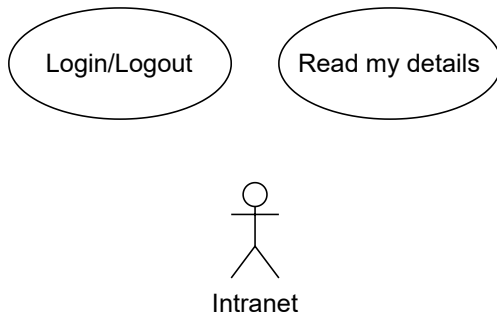
Specification sheet

Title	Explore events by category
Goal	The user explores events selecting one category at a time.
Precondition	The user is in the area (of the public view) dedicated to events.
Postcondition	The user obtains the list of events from which he can move on.
Workflow	<ul style="list-style-type: none">- The user moves to the area dedicated to events.- The user selects a category.

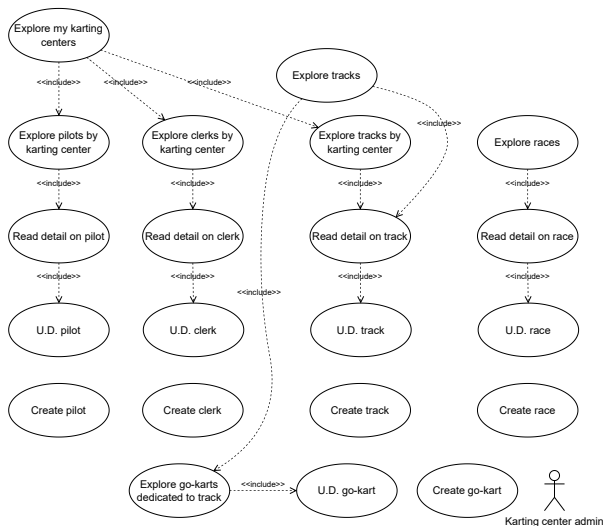
Title	Explore events by popularity
Goal	The user explores only the events considered popular (those that have at least N participants and M reviews)
Precondition	The user is in the area (of the public view) dedicated to events.
Postcondition	The user obtains the list of events from which he can move on.
Workflow	<ul style="list-style-type: none">- The user moves to the area dedicated to events.- The user chooses an event from the list of popular events already provided in the area dedicated to events.

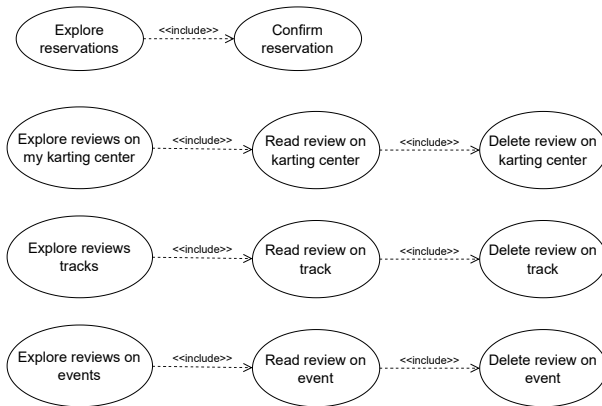
Title	Explore upcoming events
Goal	The user explores only the upcoming events (those whose first race still has to take place).
Precondition	The user is in the area (of the public view) dedicated to events or in the homepage (which already shows the list of upcoming events, the list of tracks that will be involved and the list of karting centers that will be involved).
Postcondition	The user obtains the list of events from which he can move on.
Workflow	<ul style="list-style-type: none">- A: the user chooses an event from the list of upcoming events already provided in the homepage.- B.1: the user moves to the area dedicated to events.- B.2: the user chooses an event from the list of upcoming events already provided in the area dedicated to events.

Title	Explore controversial events
Goal	The user explores only the controversial events (those that have at least N reviews under 25% of the maximum score and at least M reviews over 75% of the maximum score).
Precondition	The user is in the area (of the public view) dedicated to events.
Postcondition	The user obtains the list of events from which he can move on.
Workflow	<ul style="list-style-type: none">- The user moves to the area dedicated to events.- The user chooses an event from the list of controversial events already provided in the area dedicated to events.

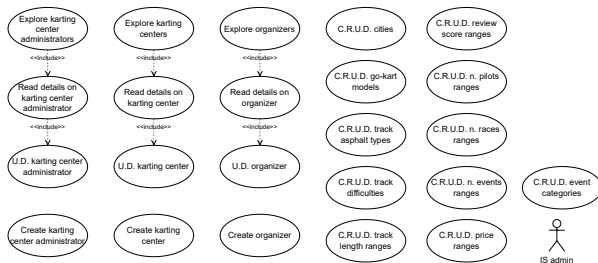


Karting center administrator

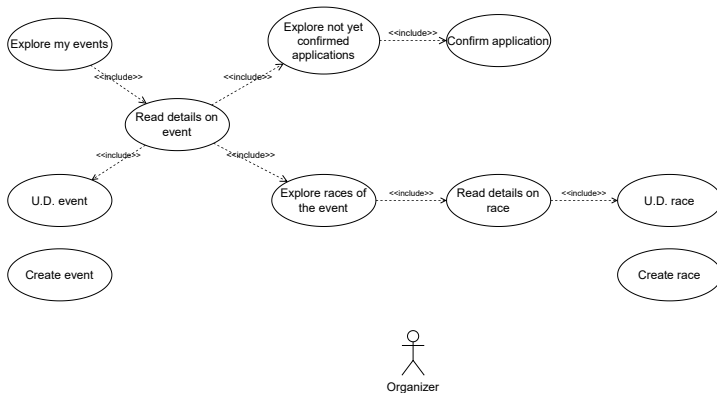


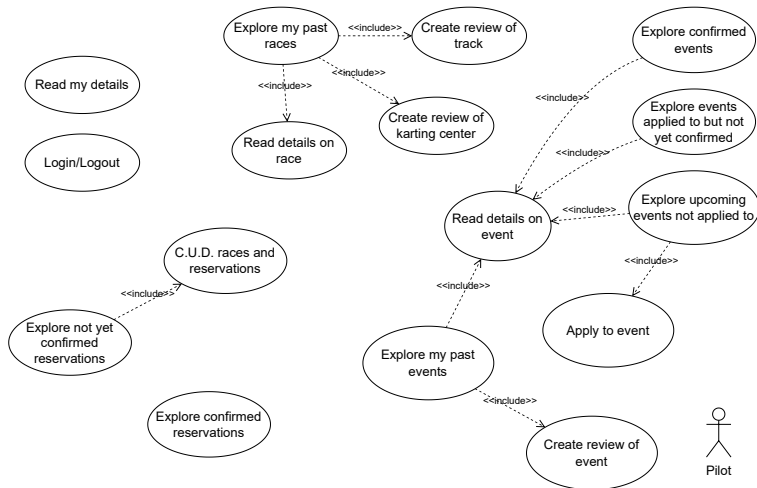


Information system administrator



Organizer







Visitor

Karting center administrator

Group name	Karting center administrator
Profile data	Name, Surname, e-mail address, password, address, phone number
Super group	Intranet
Sub group	None
Relevant use cases	CRUD on events, races, pilots, tracks, leaderboard, login, logout
Read	All
Write	All

Group name	Pilot
Profile data	Name, Surname, e-mail address, password, address, phone number
Super group	Internet
Sub group	None
Relevant use cases	Create a race, Apply for an event, login, logout
Read	All
Write	Race, Leaderboard

Karting center

Name	Karting center
Synonym	Go-karting center
Description	Karting center
Example of instance	Name: Mantova Karting Center City: Mantova nPilots: 5937 nRaces: 12485 nEvents:74 avgReviewScore: 3.9
Properties	Name: the name of the karting center City: the city where the karting center is located nPilots: the number of pilots that have raced in the karting center nRaces: the number of races that took place in the karting center nEvents: the number of events that had at least one race hosted by the karting center avgReviewScore: the average score of the reviews of the karting center
Components	None

Relations	<p>KartingCenter.City (N:1): the city where the karting center is located</p> <p>KartingCenter.KartingCenterAdmin (N:1): the karting center administrator of the karting center</p> <p>KartingCenter.Clerk (1:N): the clerks of the karting center</p> <p>KartingCenter.KartingCenterReview (1:N): the reviews of the karting center</p> <p>KartingCenter.Track (1:N): the tracks of the karting center</p> <p><i>KartingCenter.NPilotsRange</i> (N:1) the range within the number of pilots that have raced in the karting center falls</p> <p><i>KartingCenter.NRacesRange</i> (N:1) the range within the number of races that took place in the karting center falls</p> <p><i>KartingCenter.NEventsRange</i> (N:1) the range within the number of events that took place in the karting center falls</p> <p><i>KartingCenter.KCReviewScoreRange</i> (N:1) the range within the average score of the reviews of the karting center falls</p> <p><i>KartingCenter.Event</i> (N:N) the events the karting center hosted</p>
Superconcepts	None
Subconcepts	None

Name	City
Synonym	None
Description	City
Example of instance	Name: Mantova
Properties	Name: the name of the city
Components	None
Relations	<i>City_KartingCenter</i> (1:N): the karting centers located in the city <i>City_Track</i> (1:N): the tracks (inside a karting center) located in the city <i>City_Event</i> (N:N): the events that had at least one race on a track of a karting center located in the city
Superconcepts	None
Subconcepts	None

Name	Track
Synonym	Circuit
Description	Track
Example of instance	<p>Name: T1</p> <p>Length: 700m</p> <p>City: Mantova</p> <p>AsphaltType: resin</p> <p>nRentalGoKarts: 23</p> <p>Difficulty: Intermediate</p> <p>nPilots: 3873</p> <p>nRaces: 7437</p> <p>nEvents: 43</p> <p>avgReviewScore: 4.2</p>
Properties	<p>Name: the name of the track</p> <p>Length: the length of the track</p> <p>City: the city where the karting center the track belongs to is located</p> <p>AsphaltType: the type of asphalt of the track</p> <p>nRentalGoKarts: the number of rental go-karts available in the track</p> <p>Difficulty: the difficulty of the track</p> <p>nPilots: the number of pilots that have raced on the track</p> <p>nRaces: the number of races that took place on the track</p> <p>nEvents: the number of events that had at least one race on the track</p> <p>avgReviewScore: the average score of the reviews of the track</p>
Components	<p>Timetable: the timetable of the track</p> <p>Leaderboard: a leaderboard of the track</p>

Relations	<p>Track.KartingCenter (N:1): the karting center the track belongs to</p> <p>Track.TrackReview (1:N): the reviews of the track</p> <p>Track.Timetable (1:1): the timetable of the track</p> <p>Track.Leaderboard (1:N): the leaderboards of the track</p> <p>Track.Race (1:N): the races that took place on the track</p> <p>Track.GoKart (1:N): the go-karts dedicated to the track</p> <p>Track.GoKartModel (N:N): the go-kart models allowed on the track</p> <p>Track.TrackAshpalt (N:1): the asphalt of the track</p> <p>Track.TrackDifficulty (N:1): the difficulty of the track</p> <p>Track.Pilot (N:N): the pilots that have the track as one of their favorite</p> <p>Track.City (N:1): the city where the karting center the track belongs to is located</p> <p>Track.TrackLengthRange (N:1): the range within the length of the track falls</p> <p>Track.NPilotsRange (N:1): the range within the number of pilots that have raced on the track falls</p> <p>Track.NRacesRange (N:1): the range within the number of races that took place on the track falls</p> <p>Track.NEventsRange (N:1): the range within the number of events that took place on the track falls</p> <p>Track.TrackReviewScoreRange (N:1): the range within the average score of the reviews of the track falls</p>
Superconcepts	None
Subconcepts	Popular track: a track that is recurrent in the list of favorite tracks of pilots

Name	Go-kart
Synonym	Kart
Description	Go-kart
Example of instance	Name: T1.1 GoKartModel: Sodi RX7
Properties	Name: the name of the go-kart <i>GoKartModel</i> : the model of the go-kart
Components	None
Relations	GoKart.Track (N:1): the track the go-kart is dedicated to GoKart.GoKartModel (N:1): the model of the go-kart
Superconcepts	None
Subconcepts	None

Timetable

Name	Timetable
Synonym	None
Description	Timetable
Example of instance	<i>TrackName</i> : T1
Properties	<i>TrackName</i> : the name of the track
Components	None
Relations	Timetable_Track (1:1): the track the timetable belongs to Timetable_Reservation (1:N): the reservations of the timetable
Superconcepts	None
Subconcepts	None

Leaderboard

Name	Leaderboard
Synonym	Ranking
Description	Leaderboard
Example of instance	Title: Best of the week <i>TrackName</i> : T1
Properties	Title: the title of the leaderboard <i>TrackName</i> : the name of the track
Components	None
Relations	Leaderboard.Track (N:1): the track each leaderboard belongs to <i>Leaderboard.LapTime</i> (1:N): the lap times the leaderboard focuses on
Superconcepts	None
Subconcepts	None

Race

Name	Race
Synonym	None
Description	Race
Example of instance	ID: 2036 Date: 2024-02-15 Start: 15:00 End: 15:09 ForEvent: false <i>GoKartingCenterName</i> : Mantova Karting Center <i>TrackName</i> : T1 <i>nParticipants</i> : 8 <i>fastestLapTime</i> : 00:00:48.595
Properties	ID Date Start End ForEvent: whether the race was created by an organizer for an event or not <i>GoKartingCenterName</i> <i>TrackName</i> : the name of the track that hosts the race <i>nParticipants</i> <i>fastestLapTime</i>
Components	None

Relations	<p>Race_Track (N:1): the track the race has been raced on</p> <p>Race.Reservation (1:1): the reservation that has been made for the race</p> <p>Race_Pilot (1:N): the pilots that participated in the race</p> <p>Race_Pilot (N:1): the pilot who has this race as his/her last race</p> <p>Race_LapTime (1:N): every lap-time of every pilot that participated in the race</p> <p>Race_Event (N:1): the event the race is part of</p>
Superconcepts	None
Subconcepts	None

Reservation

Name	Reservation
Synonym	Booking
Description	Reservation
Example of instance	Date: 2024-02-15 Start: 15:00 End: 15:09 <i>ReservedByPilot</i> : Denis Festa <i>ReservedByOrganizer</i> : None <i>ConfirmedByClerk</i> : Jessica
Properties	Date Start End <i>ReservedByPilot</i> : the pilot who made the reservation (this property is mutually exclusive with <i>ReservedByOrganizer</i>) <i>ReservedByOrganizer</i> : the organizer who made the reservation (this property is mutually exclusive with <i>ReservedByPilot</i>) <i>ConfirmedByClerk</i> : the clerk who confirmed the reservation
Components	None
Relations	Reservation_Timetable (N:1): the timetable where the reservation is stored Reservation_Pilot (N:1): the pilot who made the reservation Reservation_Organizer (N:1): the organizer who made the reservation Reservation_Clerk (N:1): the clerk who confirmed the reservation Reservation_Race (N:1): the race this reservation has been made for
Superconcepts	None
Subconcepts	None

Lap-time

Name	Lap-time
Synonym	Lap
Description	Lap-time
Example of instance	LapNumber: 7 LapTime: 00:00:48.595
Properties	LapNumber: the <i>LapNumber</i> -th lap LapTime: the time measured for the <i>LapNumber</i> -th lap for a particular pilot
Components	None
Relations	LapTime_Pilot (N:1): the pilot who made the lap-time LapTime_Race (N:1): the race where the lap-time has been made <i>LapTime_Leaderboard</i> (N:N): the leaderboards where the lap-time is displayed
Superconcepts	None
Subconcepts	None

Application

Name	Application
Synonym	Request
Description	Application
Example of instance	Confirmed: true <i>EventName</i> : Mantova Karting Cup 2024 <i>RequestFromPilot</i> : Denis Festa
Properties	Confirmed: whether the application has been confirmed or not (the organizer who created the event is the only one who can accept an application) <i>EventName</i> : the name of the event the application has been made for <i>RequestFromPilot</i> : the pilot who made the application
Components	None
Relations	Application.Pilot (N:1): the pilot who made the application Application.Event (N:1): the event the application has been made for
Superconcepts	None
Subconcepts	None

Name	Event
Synonym	Tournament
Description	Event
Example of instance	<p>Name: Mantova Karting Cup 2024</p> <p>Price: 100</p> <p><i>FirstDate</i>: 2024-02-15</p> <p><i>OrganizerName</i>: WD40</p> <p><i>EventCategory</i>: Open</p> <p><i>nParticipants</i>: 64</p> <p><i>nRaces</i>: 12</p> <p><i>nReviews</i>: 23</p> <p><i>avgReviewScore</i>: 4.5</p>
Properties	<p>Name: the name of the event</p> <p>Price: the price of the event</p> <p><i>FirstDate</i>: the date of the first race of the event</p> <p><i>OrganizerName</i>: the username of the organizer who created the event</p> <p><i>EventCategory</i>: the category of the event (<i>open</i>, <i>intermediate</i>, <i>pro</i>)</p> <p><i>nParticipants</i>: the number of pilots who applied for the event and whose application was confirmed</p> <p><i>nRaces</i>: the number of races of the event</p> <p><i>nReviews</i>: the number of written reviews about the event</p> <p><i>avgReviewScore</i>: the average score of the reviews about the event</p>
Components	None

Relations	<p>Event_Organizer (N:1): the organizer who created the event</p> <p>Event_Application (1:N): the applications received for the event</p> <p>Event_Race (1:N): the races of the event</p> <p>Event_EventCategory (N:1): the category of the event</p> <p>Event_EventReview (1:N): the reviews about the event</p> <p>Event_EReviewScoreRange (N:1): the range within the average score of the reviews about the event falls</p> <p>Event_Pilot (N:N): the pilots who applied for the event and whose application was confirmed</p> <p>Event_PriceRange (N:1): the range within the price of the event falls</p> <p>Event_City (N:N): the cities where the races of the event took place</p> <p>Event_Track (N:N): the tracks that hosted the races of the event</p> <p>Event_KartingCenter (N:N): the karting centers whose tracks hosted the races of the event</p>
Superconcepts	None
Subconcepts	Controversial event, Popular event, Upcoming event