Case Study: Paddle School

A paddle tennis school organises classes for primary and secondary school children. The school contracts IPCSoft to get a new management system which will enable to manage the school's groups as well as its internal competition.

The school director will be able to register students by providing their name, contact telephone number, email address, age, and play level. In addition, students indicate which training shifts they prefer, choosing between the first shift on Mondays and Wednesdays; or the second shift on Tuesdays and Thursdays. It is also possible to choose between starting at five o'clock in the afternoon or at six o'clock in the evening. A student can attend more than one training shift.

When the school director considers that the training group created can be carried out, he/she will assign the coach and the court where the course will take place, thus closing the training group. The system will offer you the available coaches and courts. In a similar way to the students, if you do not find the desired coach, you will have the option of registering him/her at that moment, indicating his/her name, e-mail address, mobile phone number and teaching level for which he/she is accredited. The courts can be indoor or outdoor and have a number that identifies them.

The director may delete a training group created when he/she considers that it can no longer be carried out, as well as change the trainer who provides the training.

Throughout the course it will be possible to add new students to the group, as well as to remove a student from a training group. These functions can be carried out by both the coaches and the school director.

Both the manager and the coaches will have to be accredited with a login and a password to be able to work with the management application. Coaches will be assigned automatically when they register in the system (the system sends them by email), although they can change the password at any time. The manager will have a default login and password created by default, but can also change the password at any time, as can the coaches by entering their email address and login.

To make the school more attractive, tournaments are organised on some Fridays. The pupils who want to participate must organise themselves in pairs. The coach will oversee registering the pair, looking for the pupils in the system. The director will create the tournaments, while the coaches oversee refereeing the matches, adding the results of the games within the tournament. When the tournament ends, the system will send an e-mail to the contact address of the participants with the results obtained in the tournament.

Use Cases

1. Register Student

User	System
1. Selects the option register a new student	2. Requests you to enter the student's contact details
3. Provides the student's name, contact telephone number, email address, age and level of play.	4. Requests user to select the student's training shifts and schedules from those available.
5. Selects the shifts and schedules desired by the student from those provided by the system.	6. Verifies the information. If there is any error, it indicates it to the user by returning to step 3 or 5 (depending on the erroneous data). 7. If everything is correct, registers the new student, notifying the user.

2. Delete Student

User	System
1. Selects the option delete student	2. Displays a list of students who are not in any training group
3. Select the student to delete	4. Ask for confirmation of the deletion
5. Confirm the deletion	6. Deletes the student from the system

3. Register Coach

User	System
1. Selects the option Register Coach	2. Requests to enter the trainer's contact details
3. Enters his/her name, email address, mobile phone number and level of education for which he/she is accredited.	4. Verifies the information 5. If there are any errors, it notifies the user by returning to step 2 so that he/she can correct them. 6. If everything is correct, it assigns a login and a password, sending the coach an email with the information. It also informs the user that the process has been successfully completed.

4. Delete Coach

User	System
1. Selects the option Delete Coach	2. It displays a list of coaches who are not in any training group.
3. Selects the coach to delete	4. It requests confirmation of deletion
5. Confirms deletion	6. It removes the coach from the system

5. Create training group

User	System
1. Selects the option to create a training group	2. It asks to select the training shift and timetable from among those available.
3. Selects the shift and training timetable.	4. It asks to indicate the minimum and maximum level of play of the group.
5. Enters the minimum and maximum playing levels	6. It Verifies the interval entered. If it is not correct, go back to step 5. If it is correct, go to step 7

	7. Offers the students who have requested that shift and timetable, with a level of play within the given range.
8. Selects the pupils who will be part of the group. If it does not find any student, it goes to Use Case 1 (Register student), returning to 7. 9. Requests to create the group	10. Verifies that at least three students have been selected, creating the group and notifying the user. If a student is missing, it asks the user to enter the student, returning to step 7 11. If everything is correct, it assigns a number and registers it.

6. Close Training Group

User	System
1. Selects the close training group option	2. Offers the training groups pending to close, indicating their number, shift and timetable.
3. Selects the group to close so that it can be started	4. Offers the free courts in the group's shift and timetable.
5. Selects a court from those available	6. Displays the available coaches with a teaching level higher or equal to the maximum level of the group.
7. Selects the coach. If the coach is not in the list, the user can go to use case 2 to register him/her, going back to point 6. 8. Requests to close the group	9. Checks that a court and a trainer have been selected. If the track is missing, it goes to point 4. If the coach is missing, it returns to point 6 10. If everything is correct, closes the group so that it can start, informing the user.

7. Modify coach of the training group

User	System
1. Selects the option to modify the coach of the training group	2. Offers the active training groups, indicating their number, shift and timetable
3. Select one group from the given ones	4. Offers the available coachs with a teaching level higher or equal to the maximum level of the group.
5. Selects one coach. The user can go to the user case 2 to register the new coach. After that, returns to step 4. 6. Requests to update the training group	7. Checks that a coach has been selected. If not, tells the user about it and returns to 5. 8. If everything is correct, it updates the group and informs the user about it.

8. Delete training group

User	System
1. Accesses the option to delete a training group.	2. -Offers all the training groups, indicating their number, shifts and timetable.
3. Select the desired group	4. Presents the coach and students in the group and asks the user to confirm the deletion.
5. Confirms the deletion	6. Deletes the group and notifies the user.

9. Add students to training group

User	System
1. Selects the option to adding students to a group	2. Offers the active training groups, indicating their number, shift and timetable
3. Select one group from the given ones	4. Provides the students who have requested that shift and timetable, with a level of play within the given interval
5. Selects the student or students that you want to assign to the group. If some students are not in the list, the user can go to use case 2 to register it, returning to point 2. 6. Request to update	7. Updates the group and informs the user

10. Delete a student from a training group

User	System
1. Accesses to the option to delete a student from a training group.	2. Provides all the training groups, indicating their number, shift, and timetable.
3. Select one group from the given ones	4. Presents the coach and students in the group and asks the user to select the students to be deleted
5. Selects the student(s) to be deleted from the group	6. Requests confirmation from the user indicating the student(s) to be removed.
7. Confirms the deletion	8. Deletes the students from the group

11. Create tournament

User	System
1. Selects the option to create a tournament	2. Asks the user to enter the date and start time of the tournament.
3. Enters the date and time of the tournament	4. Validates that the date is in the future and the time is correct. If the data is not correct, go back to 2. If it is correct, it asks for the maximum number of pairs that can register
5. Enters the number of pairs that can register	6. Informs user about the free courts for the tournament date
7. Selects the courts on which the tournament will take places	8. Calculates the tournament schedule and displays it to the user, asking for confirmation
9. If confirmed, goes 9. If you do not confirm, go back to 4	10. Creates the tournament and saves the schedule.

12. Register a pair in a tournament

User	System
1. Accesses to the option to enter a tournament.	2. Offers all active tournaments, indicating date and time of the tournament.
3. Selects the tournament	4. Checks that there are still places available 5. Offers students who are not enrolled in that tournament 6. Requests the selection of two students
7. Selects two students and asks for the pair to be registered	8. Checks that two students have been selected and registers the pair. If two students have not been selected, go back to 5.

13. Delete a pair from a tournament

User	System
1. Accesses the option to delete a pair from a tournament	2. Offers all active tournaments, indicating date and time of the tournament
3. Selects the tournament	4. Offers a list of the registered pairs, showing the names of the members
5. Selects the pair to delete	6. Asks the user to confirm the deletion
7. Confirms the deletion	8. Deletes the partner from the tournament

14. Enter results of the tournament

User	System
1. Selects the option to enter the results of a tournament.	2. Offers all the active tournaments, indicating date and time of the tournament 3.
3. Selects the tournament	4. Informs about the table of matches of the tournament
5. Selects a match from the table	6. Prompts you to enter the winner, as well as the result of the sets played.
7. Enters the requested data	8. Saves the results 9. Asks the user if he/she wants to enter another result
10. If the user answers yes, it returns to 4. If the user indicates no, it continues to 10.	11. Informs the user that the results have been saved.

15. Send Tournament Results

User	System
1. Accesses to the option	2. The system asks for confirmation to send the results to the participants.
3. Confirms the operation	4. Send an e-mail with the result of the competition table to all participants.

16. Login

User	System
1. Access to the login option	2. Ask the user to provide his or her login and password.
3. Enters his/her login and password. 4. If user does not remember his/her password, he/she has the option to go to the Modify Password use case.	5. Checks that the login and password match those registered in the system. 6. If they match, informs the user and credits him/her in the system. 7. If they do not match, report the error and return to step 2.

17. Modify Password

User	System
1. Goes to the option to modify the password.	2. Asks the user to provide their login and the e-mail address with which they were registered in the system.
3. Enters their login and e-mail address.	4. Checks that the login and address belong to a user of the system. 5. If both are equal, it sends an email with a security code to change his/her password and asks the user to enter it.

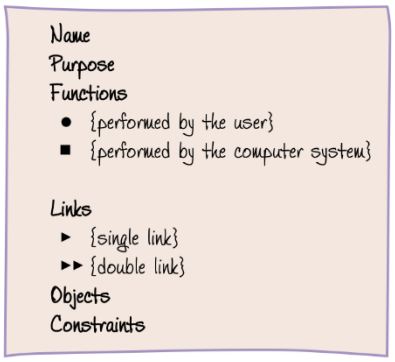
6. Enters the security code received by email.	7. Check that the entered valued is equal to the sent one. Prompts the user to enter the new password
8. Enters the new password	9. Prompts the user to re-enter the password
10. Re-enter the password	11. Compares that both passwords are the same. 12. If they are the same, records the change and informs the user. 13. If they are not the same, inform the user of the error and return to step 7.

Activities

1. Identify the task objects from **all previous use cases and the case study**. Compile them in tables, as the following example.

Task object	Attributes	Actions
CD-ROM	Keywords	Reserve
	Author	View
	Title	Add
	Year	Print
	Platform	Delete
	Owned by (academic, researcher or research student)	Save
		Edit

2. Identify the containers of the **use cases assigned to your group.**



3. Create the content diagram of the previous use cases, starting from the main container and adding all the navigation links needed (if needed, also conditions). Describe each container only with a title. Example: