

ClimbCode

ClimbCode is the result of a fusion between teaching and programming. This fusion is, in fact, a platform used to support the teaching of different subjects at high schools and academies. This support is given as interactive exercises made by programmers which use programming to teach other concepts from other different subjects.

This exercises will be for sale in the system for schools so they can expand their catalog and show them to their students.

Information requirements

- **Actors:** The actors of the system can be either administrators, schools, teachers, students and programmers. For every actor the system must store his or her name, surname, email, phone and an optionally profile photo. Additionally:
 - For schools, the system must store: the center name, an identification code, an address, a postal code, a province, the type of school (Academy or High School) and the type of teaching (Public or, Private). If the school is an academy, identification code it must be a CIF; if the school is a High School, it must be a center code.
 - Teachers, students and programmers must provide their national identification code.
- **Licenses:** schools contract a license when they're registering in the system; this license determines its capabilities on the platform: a number of users (teachers or students) which can manage and some free exercises. For every license, the system must store the type, the number of users (teachers or students), a free number of exercises, the starting and expiration dates and its price.

Also, the system let schools to add extra users to the basic license in order to personalize it (obviously, the system will update the final price automatically).

 - There are three types of basic licenses: "BASIC", "MEDIUM", "LARGE":
 - § BASIC: 60 users and 20 free exercises for 200€/year.
 - § MEDIUM: 200 users and 50 free exercises for 550€/year.
 - § LARGE: 500 users and 75 exercises for 700€/year.
- **Exercises:** The system must store the following information: title, description, code, category, level of difficulty and number of sales. The category is one of the default subjects that the system provides.
 - There are three difficulty levels: "EASY", "MEDIUM", "HARD".

Exercises are created by programmers, so they can earn profits for every school which buys that. Every exercise is priced at 4 € by default (1 € for the system (25%), 3 € for the programmer) and the money (of every sale) is stored in the programmer balance

which is cashed automatically by the system each 25 of every month using the programmer's PayPal account. Note that this taxes are default in the system but can be updated by the administration.

The exercises can be saved initially as a draft until the programmer decides to publish them. When an exercise is published, it can be bought by schools.

- **Promotions:** a programmer can promote an exercise which he or she had created in order to advertise them in privilege positions into the system.

Every promotion is priced at 1€ per two months (60 days). After that period, the exercise will lost its promotion and it will show as normal exercises, needing to promote it again.

- **Default Subjects:** administrators can create one or more default subjects in order to categorize exercises when a programmer creates one. The system must store for every subject: a name and a course.

By other hand, a school can have multiple **subjects** in order to categorize its exercises. Those subjects are created automatically when a school buys an exercise with the same parameters that the default subject related with the exercise. The process is simple: when a school buys an exercise, the system check the default subject related with that, if the school already has a subject with these parameters, add the exercise to that; if not, creates a subject for the school and add the exercise to it.

Functional requirements

*A user who is **not authenticated** must be able to:*

- See the welcome and contact pages.
- Log-in into the system using his/her credentials.
- Register as programmer (with a free account).
- Register into the system as school through one of the licenses offered by the system. In addition, the school can add an extra number of users if the license does not adapt to its needs. The school must pay before completing the registration.

*An actor who is **authenticated** must be able to:*

- Do the same as an actor who is not authenticated except registering into the system.
- Edit his/her profile.

*An actor who is **authenticated as a programmer** must be able to:*

- List all the exercises in the system. It must appear only the name and details. The list can be filtered by keywords, level or subject.
- List the exercises that he or she has created. He or she must see the sales of them.
- Create, modify or delete his/her exercises. The exercises will be saved initially as a draft, until the programmer decides to publish them.
- Apply for a promotion of his or her exercises.

- Display his/her profits deposit: that is the amount of money he/she has earned by selling in the current month.

*An actor who is authenticated as a **school** must be able to:*

- List all the exercises in the system. It must appear only the name, details and number of sales. The list can be filtered by keywords, level or subject.
- Select the free exercises that are included in their license. That is similar to buy an exercise but there is no payment (it is assumed by the system).
- Buy exercises. Note that a school must register a valid PayPal account before completing the purchasing. Note that when a school buys an exercise, the system automatically check if the school has a subject for it. If it exists, the exercise is added to the school subject; if not, the system creates a subject (for the school in exclusivity) with the same parameters and added the exercise to that.
- Manage its teachers: list, create, modify and delete. A teacher must be related with the different subjects he/she teaches.
- Manage its students: list, create, modify and delete. A student must be related with the subjects in which he/she is enrolled.
- Display and download a register authorization PDF for its students.

*An actor who is authenticated as a **teacher** must be able to:*

- List all the exercises in the platform. They must show only the name, details and number of sales. The list can be filtered by keywords, level or subject.
- List all the subjects of his or her school.
- See and execute the exercises his/her school owns and see their results.

*An actor who is authenticated as a **student** must be able to:*

- List all the subjects of his or her school.
- See and execute the exercises his/her school owns and see their results.

*An actor who is authenticated as an **administrator** must be able to:*

- Delete exercises if the content is not appropriate.
- Manage default subjects (to categorize exercises): list, create, modify and delete.
- Manage default licenses: create or update templates.

Non-Functional requirements

- The system must track the actual profits of the programmers, so they can check it anytime.
- The system will be able to pay programmers each 25 of every month using PayPal. Until that time, the profits are stored in the programmer deposit.
- When a school buys an exercise using its license free exercise selections, the system must assume the payment for the programmers.