# Improvements for future development

* Home page:

A selection of the last added quizzes or more played quizzes could be inserted on this page, assuming the web application is going to be visited by users from outside the organization to play quizzes.

* Quiz List page:
  + A pagination can be added in future development iterations to make the search of quizzes easier for the user.
* Navigation bar / Adding quiz categories:

There could be a button in the navigation bar to access quizzes by category. This would mean to add a new entity to the database to hold al the different types and in future iterations subtypes could be also added, e.g. a type can be Mathematics and a subtype can be Algebra.

* Create page:
  + Make quiz creation personalised allowing the User to add or delete questions in the quiz.
  + User could be able to add questions with its answers dynamically when creating a quiz in the create form clicking an Add Question button.
  + OR We could also give the ability to users to create questions and answers individually, to be after assigned to a Quiz; this way, the same question could be included in different quizzes. This will mean changes in the database entities and the creation of another controller.
  + Improvement for user input validation should be a future objective to meet. Perhaps having somebody more specialised having a look into it.
* Register and Login page:
  + Password confirmation should be implemented in future iterations.
  + If the web application were to be used for internal use, the email domain accepted for using the application should be the organisation’s domain.
  + Google and Facebook registration could be implemented if the aim of the web application is to get users from outside the organisation to play quizzes.
* Performance tests be run in the future as the data hold in the database could grow considerable and it could affect the waiting time for users to be shown the quizzes and the time to perform any action against the database. The performance needs also to be tested considering a large number of users accessing the web application at the same time.
* Play page:
  + In future iterations a Play page can be developed to give users with certain role the ability to play a quiz and see the score for that quiz.
  + An extension of this implementation could be to **store the user scores for each quiz** and create a User’s Dashboard where could be check their score for a quiz previously saved with a date, the name, answers failed and answers right. A score summary page could be also created with a summary of all the quizzes that the user had played.