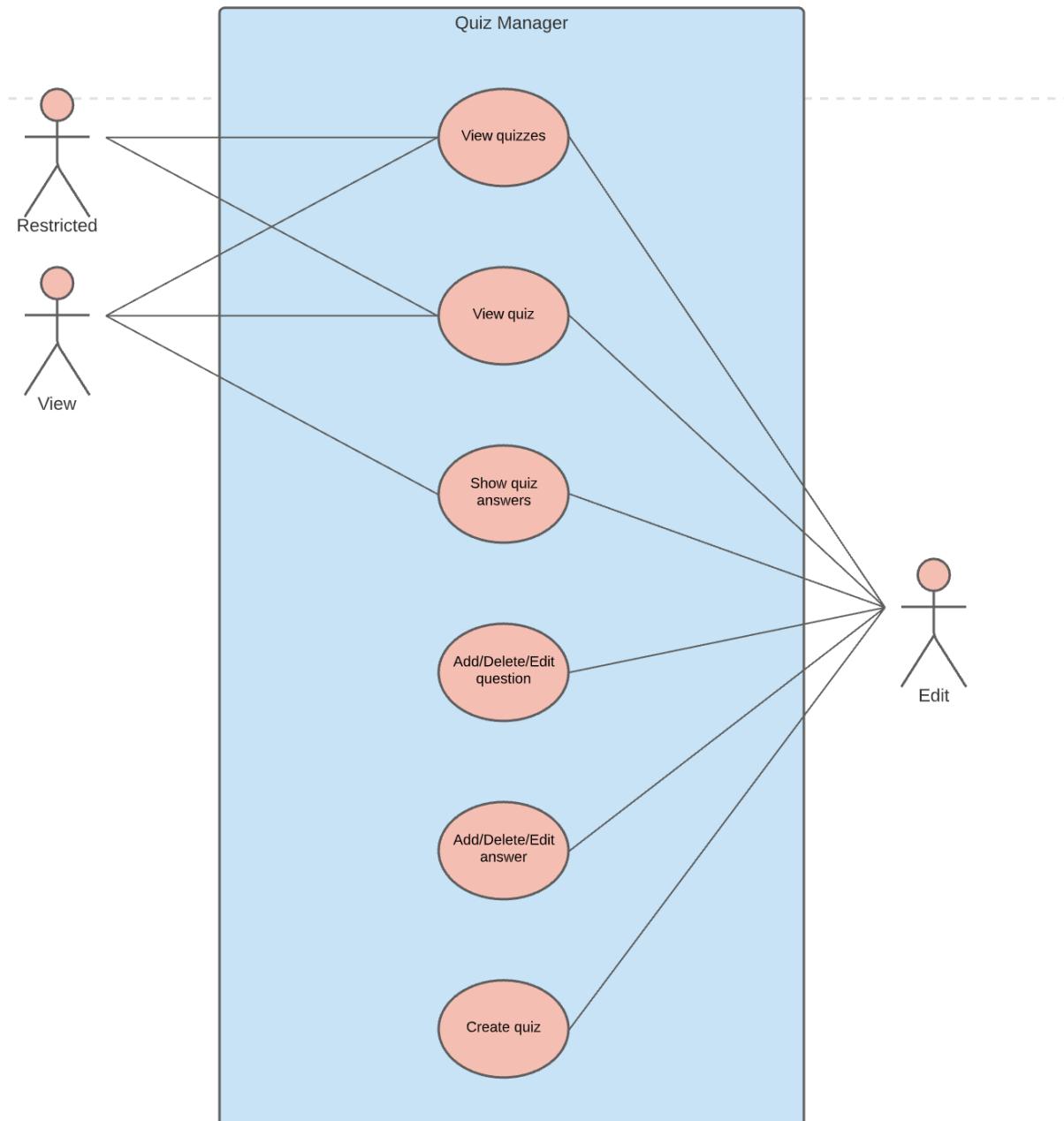


# Design

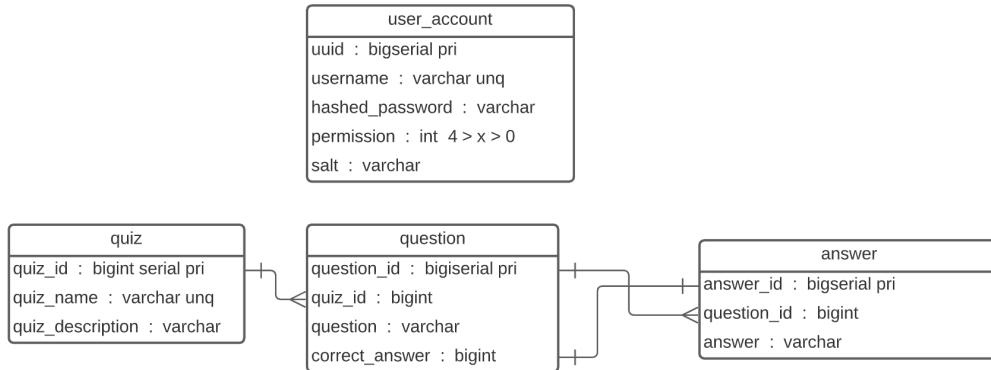
This document aims to design a system that will meet all of the requirements outlined in the requirements specification.

## Use case diagram



(Figure one)

# Database



(Figure two)

## user\_account\_table

This table will be responsible for managing user data. The username column will have a unique constraint to ensure that usernames are unique as they will be used for log in. The permissions column will be constrained to only contain values 1, 2 or 3, which will allow for a mapping over to ‘Restricted’, ‘View’ and ‘Edit’ in the server.

## quiz

This table will have a one to many relationship with the questions table as shown above. The quiz\_id column will be indexed for speed and so that quizzes are displayed in order of creation on the client.

## question

This table will have a many to one relationship with the quiz table, and a one to many relationship with the answer table as shown above. The correct answer field will reference the answer\_id of the correct answer. The quiz\_id field will have a foreign key constraint that references quiz\_id on the quiz table which will cascade on delete. The question\_id column will be indexed to allow for speed and so that questions are displayed in order of creation. The question and correct\_answer columns will have a not null constraint.

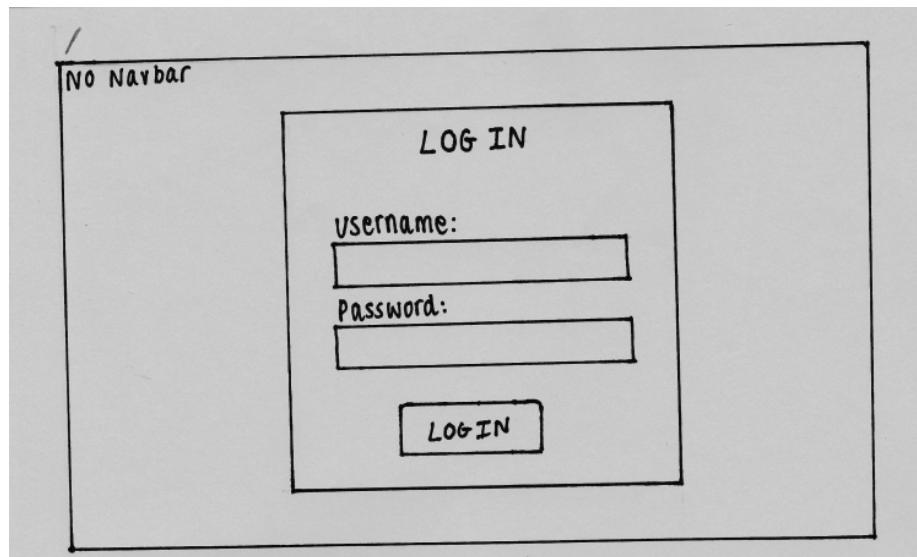
## answer

This table will have a many to one relationship with the question table as shown above. It will have a not null constraint on the answer column. It will be indexed on answer\_id for speed and so that answers appear in order of creation in the client. A foreign key constraint will be

placed on the question\_id column which will reference question\_id on the question table and cascade on delete.

## Front end

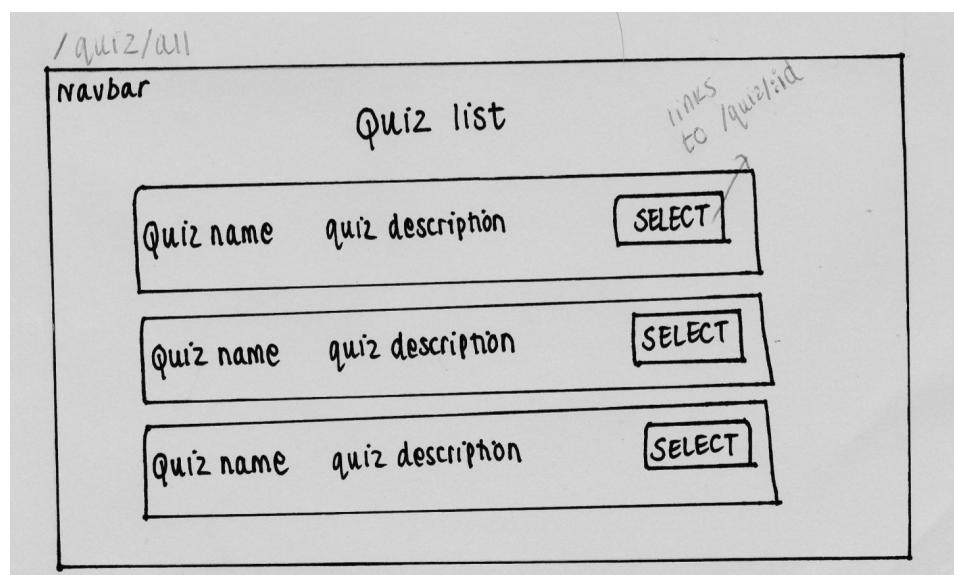
Log in page '/'



(Figure two)

OKR2.

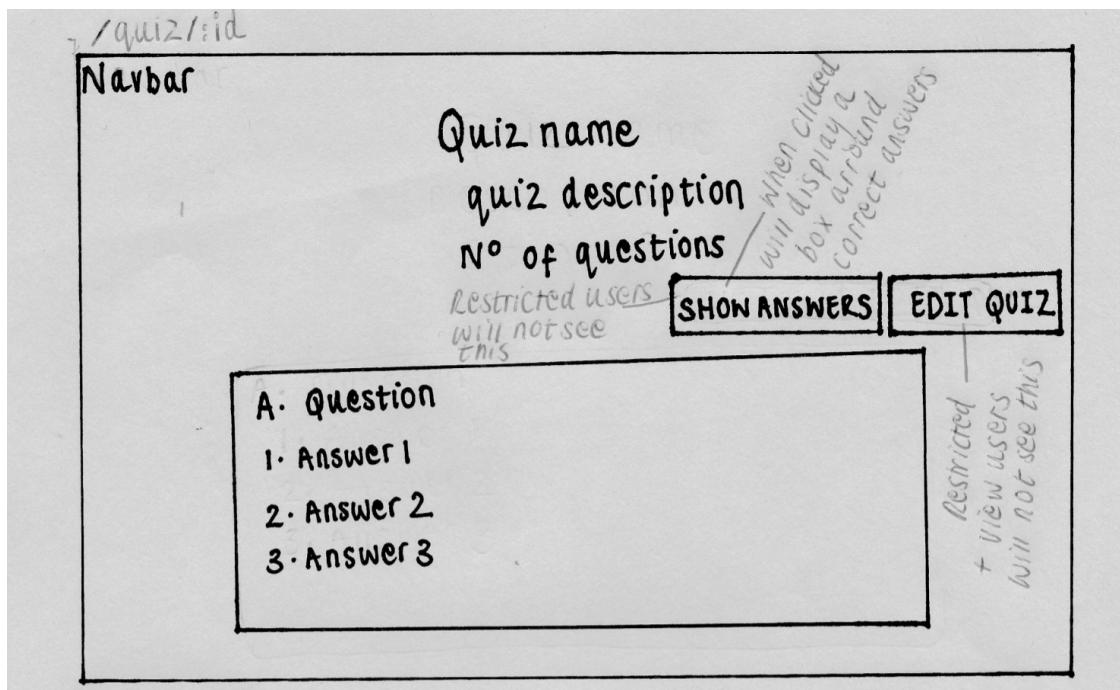
Quiz list page '/quiz/all'



(Figure three)

OKR4, OKR11.

View quiz page '/quiz/:id'



(Figure four)

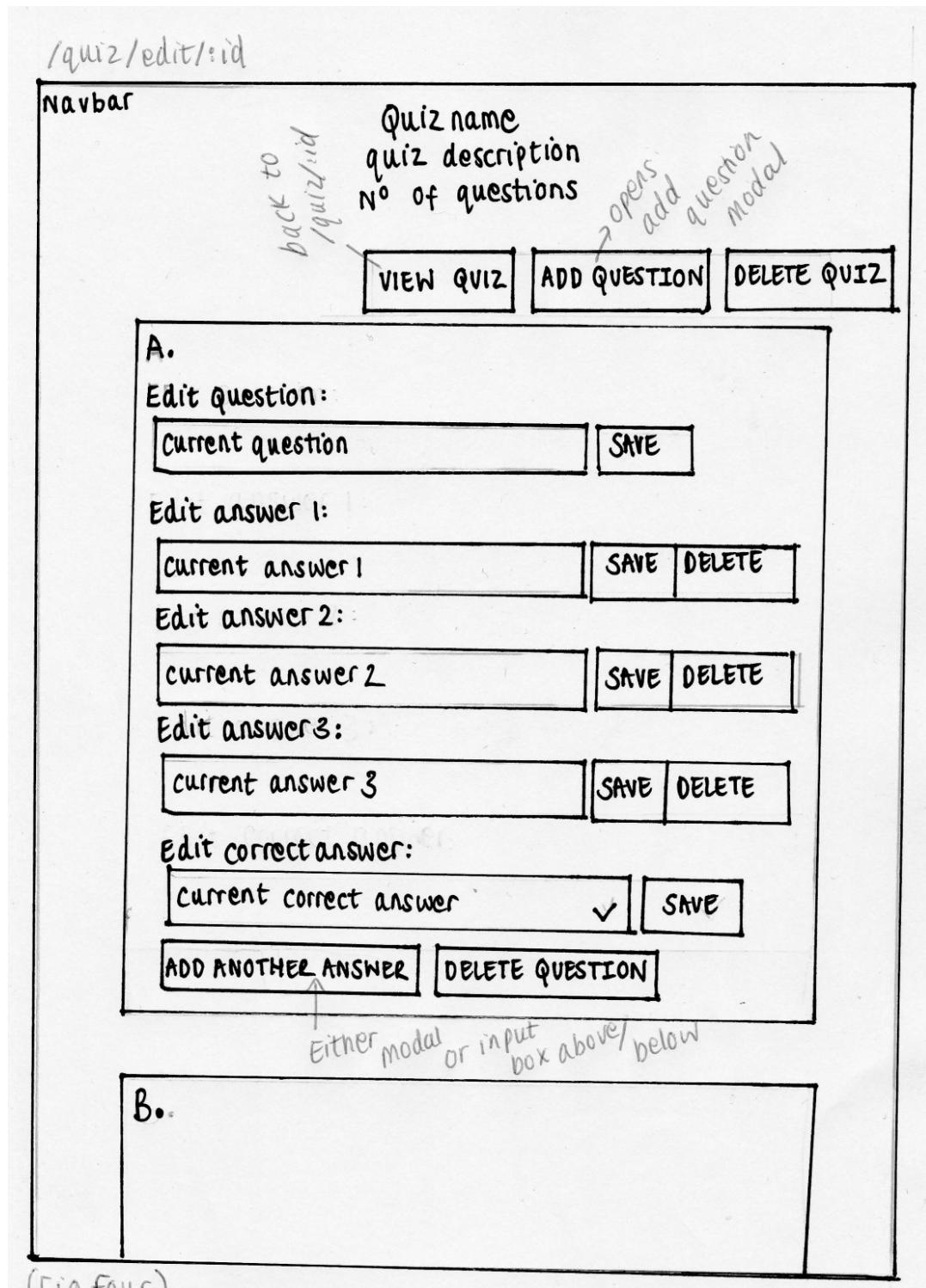
OKR5, OKR11, OKR12, OKR13.

The show answers button will only appear on the page if user permissions are view or edit.

The edit button will only appear on the page if user permissions are edit.

When the show answers button is pressed a box will appear around the correct answers.

Edit quiz page '/quiz/edit/:id'



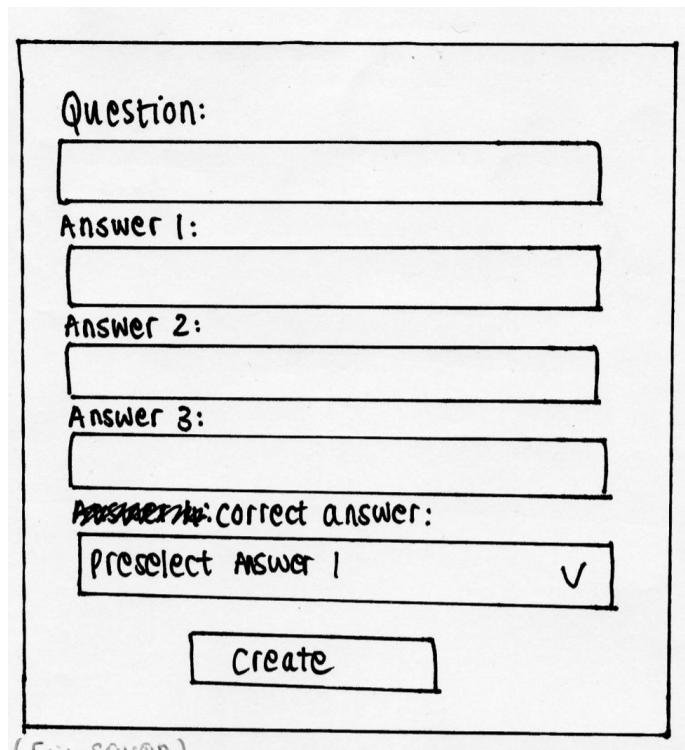
(Figure five)

OKR13, OKR14, OKR15, OKR16, OKR18, OKR19, OKR21.

The add question and add answer button will open a modal.

The delete quiz button will redirect back to the quiz list once the quiz is deleted.

## Add question modal



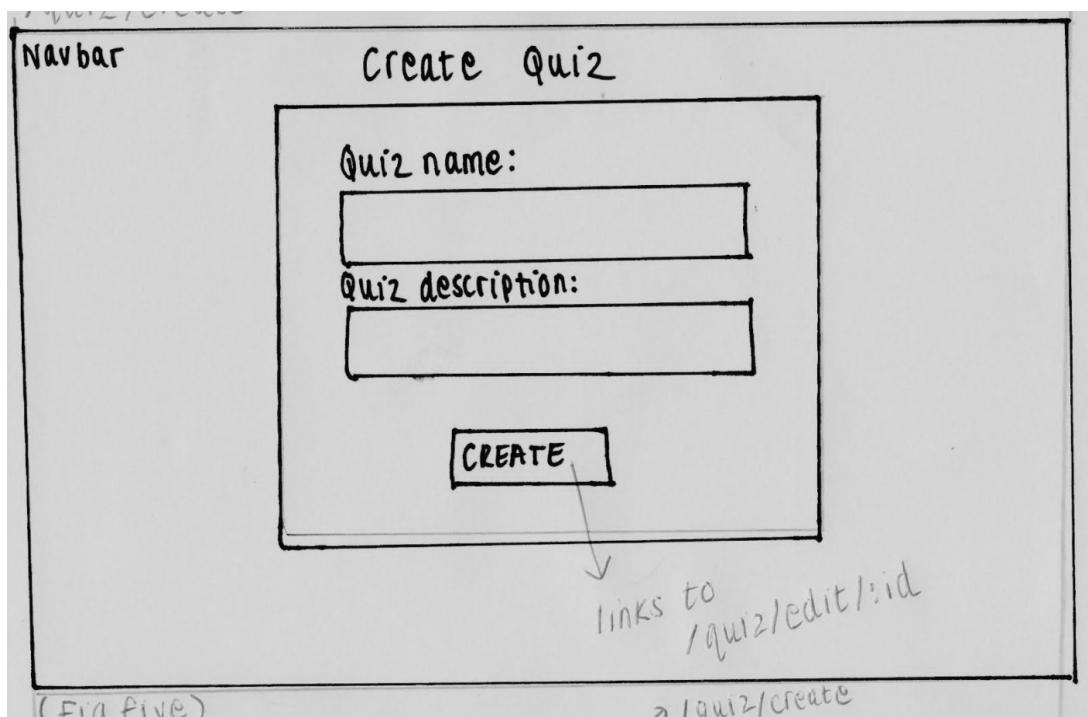
(Figure six)

OKR14.

## Add answer modal

(not drawn)

Create quiz page 'quiz/add'

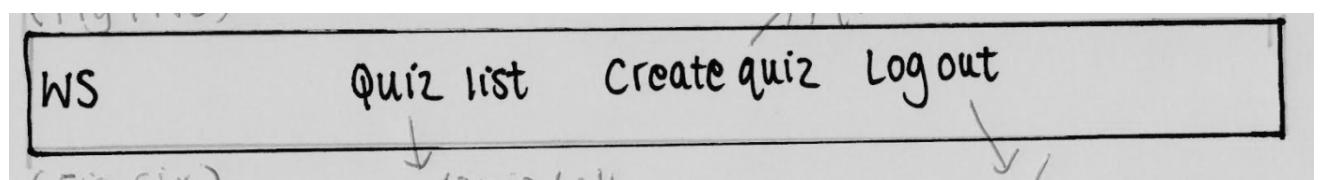


(Figure seven)

OKR20.

Redirects to the edit quiz page so the user can add questions and answers.

Nav bar



OKR3.

The create quiz link is only shown if the user has edit permissions.