Quiz Platform

How an admin create a quiz

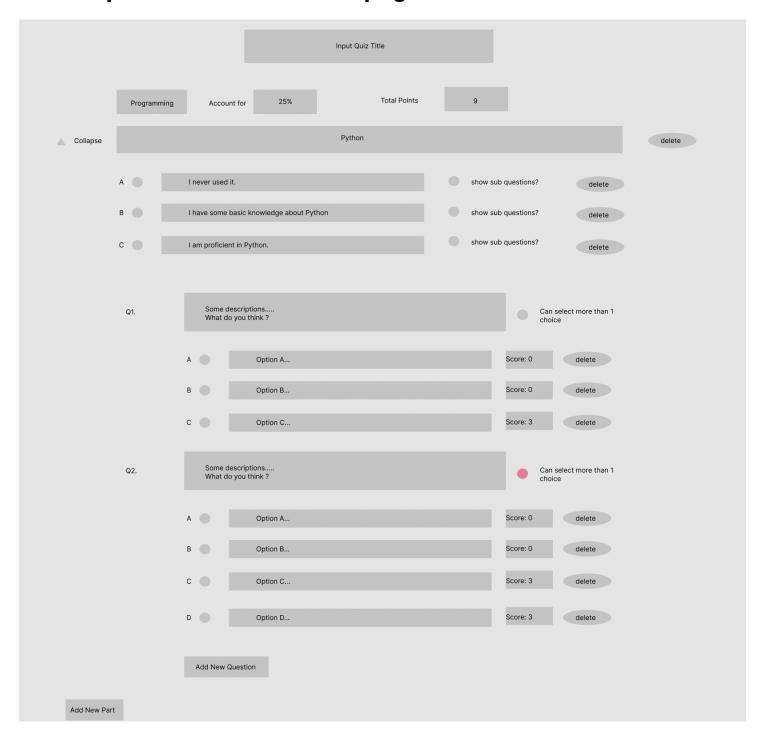
A CMS platform will be provided.

1. Write a JSON styled data structure and upload it.

```
"title": "My Quiz 1",
"domains": [
  {
    "domainName": "Programming",
    "proportion": "25", // this domain accounts for 25% of the total score of the qui:
    "parts": [
      {
        "partName": "Python",
        "choices": [
          {
            "description": "I have never used Python.",
            "willShowSubQuesitons": false
          },
            "description": "I have some basic knowledge about Python.",
            "willShowSubQuesitons": true
          },
          {
            "description": "I am proficient in Python.",
            "willShowSubQuesitons": true
          },
        ],
        "recommendations": [
          {
            // if the user scores less than or equal to 25% of the total points of thi
            // he/she will be provided by the following link
            "score": 25,
            "link": "https://www.google.com"
          },
          {
            "score": 50,
            "link": "https://www.google.com"
          },
            "score": 75,
            "link": "https://www.google.com"
          },
            "score": 100,
            "link": "https://www.google.com"
          },
        ]
      },
        // ...other part
      }
    1
  },
  {
```

This will initialize a basic structure of the quiz, except detailed questions, which can be added later.

2. Edit questions in the admin page



Other solutoins

It will cost more time and efforts to implement the user interface for editing the quiz questions, as is shown in the picture above.

Another way is to edit the whole quiz by only writing the json file. The data structure will become more complicated. If this is acceptable, the implementation will be much easier.

Databse Design

Users

```
CREATE TABLE

IF NOT EXISTS Users (
    id INT NOT NULL PRIMARY KEY,
    username VARCHAR ( 255 ),
    PASSWORD VARCHAR ( 255 )
)
```

Quizzes

```
CREATE TABLE

IF NOT EXISTS Quizzes (
    id INT NOT NULL PRIMARY KEY,
    title VARCHAR ( 255 ),# Quiz title
    tag VARCHAR ( 36 ),# Quiz tag, which will not be exposed to users. This field can description VARCHAR ( 255 ),# descriptions for the Quiz total_points INT,# a positive integer, usually set to 100 detroyed boolean NOT NULL
)
```

Domains

```
CREATE TABLE

IF NOT EXISTS Domains (
    id INT PRIMARY KEY NOT NULL,
    NAME VARCHAR ( 255 ) NOT NULL,
    proportion INT NOT NULL,
    quiz_id INT NOT NULL,
    createAt char(10), # 10-digit unix TIMESTAMP
    updateAt char(10),
    FOREIGN KEY ( quiz_id ) REFERENCES Quizzes ( id )
)
```

Parts

PartChoice

```
CREATE TABLE
IF NOT EXISTS PartChoices ( # eg. Python, R
        id INT NOT NULL PRIMARY KEY,
        description VARCHAR(255),
        showSub boolean, # show sub questions if clicked
        seq INT, # sequence number eg: A B C
        createAt char(10), # 10-digit unix TIMESTAMP
        updateAt char(10),
        part_id int not null,
        FOREIGN KEY (part_id) REFERENCES Parts (id)
)
```

Recommendations

```
CREATE TABLE
IF NOT EXISTS Recommendations (# eg. Python, R
        id INT NOT NULL PRIMARY KEY,
        scoreProp INT,# eg. 25 : show link if final score is lower than 25% of the total
        link VARCHAR ( 255 ),
        createAt CHAR ( 10 ),# 10-digit unix TIMESTAMP
        updateAt CHAR ( 10 ),
        part_id INT NOT NULL,
        FOREIGN KEY ( part_id ) REFERENCES Parts ( id )
)
```

Questions

```
CREATE TABLE
IF NOT EXISTS Questions (
    id INT NOT NULL PRIMARY KEY,
    description VARCHAR ( 1023 ) NOT NULL,# the problem descriptions
    seq INT,
    destroyed boolean,# indicates whether this question is detroyed, or whether it:
    multi_choices boolean,# indicates if user can select more than one choices
    part_id INT,
    FOREIGN KEY ( part_id ) REFERENCES Parts ( id )
)
```

Choices

```
CREATE TABLE
IF NOT EXISTS Choices (
    id INT NOT NULL PRIMARY KEY,
    description VARCHAR ( 255 ) NOT NULL,
    seq INT, # sequence number of the question, usually from 0 to 3
    question_id INT, # references a question id
    score INT NOT NULL,
    UNIQUE KEY ( seq, question_id ), # make sure sequence number is unique in the question id sequence for the property of th
```