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Trivia Trouble via Open Source Trivia API

Trivia Trouble will provide trivia questions and possible answers for each given question. The application will allow interaction between the user and the API for a customized trivia experience. The user will be able to select the number, category, and difficulty of questions. The user will also be able to choose between true / false questions and multiple choice questions. As a stretch goal, we plan to implement a scoreboard and additionally options for multiplayer. As another stretch goal, we plan to implement the ability to open a new intent to search the correct answer or question using another API, such as the MediaWiki (Wikipedia) API or possibly searching the internet for more information about the trivia.

Open Trivia Database is a third-party open source API. It responds to queries that include the options listed above. The API does not require a key and is a free open source database for programming projects. The URL will be generated based off user input from within the application. The URL will then be sent to the API and a JSON string returned. Each

Application Description

The trivia application will provide questions and optional answers. This application will allow for interaction between the user and the API allowing for a customized trivia experience. Total number of questions (1 – 50), question category, question difficulty (easy, medium, hard), and question type (multiple choice, true/false) will be game setup options. As stretch goals, the app will include a scoreboard and options for number of players.

API Overview

API Description

Open Trivia Database is a third-party open source API, https://opentdb.com/api_config.php. It responds to queries that include the options listed above. The API does not require a key and is a free open source database for programming projects. The first query performed is a request for a session ID (good for 6 hours).

Retrieve a Session Token:

```
https://opentdb.com/api_token.php?command=request
```

Reset a Session Token:

```
https://opentdb.com/api_token.php?command=reset&token=YOURTOKENHERE
```

API Interface

We'll retain the ID to make sure the API doesn't send repeat questions; a stretch goal would allow users to start a new or resume the same session. With this ID, an initial URL is generated based upon the game setup information the user chooses (options listed in the high level description).

Using a Session Token:

```
https://opentdb.com/api.php?amount=10&token=YOURTOKENHERE
```

Here is an example API call for 10 easy multiple choice questions from the "Mythological" category:

API URL GENERATED:

```
https://opentdb.com/api.php?amount=10&category=20&difficulty=easy&type=multiple
```

The response to such a query is a JSON object of a response code and array of results (question/answer objects). Example:

```
{
  "response_code": 0,
  "results": [
    {
      "category": "Entertainment: Television",
      "type": "boolean",
      "difficulty": "medium",
      "question": "AMC's The Walking Dead, Rick, Carl, Daryl, Morgan, Carol and Maggie were introduced to us in Season 1.",
      "correct_answer": "False",
      "incorrect_answers": [
        "True"
      ]
    },
    {
      "category": "Entertainment: Film",
      "type": "multiple",
      "difficulty": "easy",
      "question": "Who directed 'E.T. the Extra-Terrestrial' (1982)?",
      "correct_answer": "Steven Spielberg",
      "incorrect_answers": [
        "Stanley Kubrick",
        "James Cameron",
        "Tim Burton"
      ]
    }
  ]
}
```

```
{
  "category": "General Knowledge",
  "type": "multiple",
  "difficulty": "easy",
  "question": "Which American president appears on a one dollar bill?",
  "correct_answer": "George Washington",
  "incorrect_answers": [
    "Thomas Jefferson",
    "Abraham Lincoln",
    "Benjamin Franklin"
  ]
},
{
  "category": "Science: Computers",
  "type": "boolean",
  "difficulty": "easy",
  "question": "RAM stands for Random Access Memory.",
  "correct_answer": "True",
  "incorrect_answers": [
    "False"
  ]
},
{
  "category": "Science & Nature",
  "type": "boolean",
  "difficulty": "easy",
  "question": "Salt is 100% composed of Sodium.",
  "correct_answer": "False",
  "incorrect_answers": [
    "True"
  ]
},
{
  "category": "Sports",
  "type": "multiple",
  "difficulty": "easy",
  "question": "Which team won 2014 FIFA World Cup in Brazil?",
  "correct_answer": "Germany",
  "incorrect_answers": [
    "Argentina",
    "Brazil",
    "Netherlands"
  ]
},
{
  "category": "Entertainment: Board Games",
  "type": "multiple",
  "difficulty": "hard",
  "question": "What do you declare in Richi Mahjong when you've
drawn your winning tile?",
  "correct_answer": "Tsumo",
  "incorrect_answers": [
    "Ron",
    "Richi",
```

```
        "Kan"
    ],
    },
    {
        "category": "Vehicles",
        "type": "boolean",
        "difficulty": "medium",
        "question": "Bugatti is an Italian car manufacturer.",
        "correct_answer": "False",
        "incorrect_answers": [
            "True"
        ]
    },
    {
        "category": "Sports",
        "type": "multiple",
        "difficulty": "medium",
        "question": "Which of the following Grand Slam tennis tournaments
occurs LAST?",
        "correct_answer": "US Open",
        "incorrect_answers": [
            "French Open",
            "Wimbledon",
            "Australian Open"
        ]
    },
    {
        "category": "Vehicles",
        "type": "multiple",
        "difficulty": "easy",
        "question": "The LS3 engine is how many cubic inches?",
        "correct_answer": "376",
        "incorrect_answers": [
            "346",
            "364",
            "427"
        ]
    }
]
}
```

Application Outline

Activities

Main

The main intent would provide a typical game interface for the application; it will consist of our app's title, and buttons to access an options/settings/menu, setup/start game, resume game (stretch goal), leaderboard (stretch goal), and player stats (stretch goal).

Game Setup

In the game setup screen players would select the number of players (stretch goal) and options about the data the trivia will pull (see API Methods).

In Game

When going through rounds, players would be presented with a text view set to a trivia question (the question being provided by the API). Below this they would be presented with the appropriate options to select an answer (also provided by the API) and a button for answer submission. Lastly, there would be a display to show the player which question they are on and a button to exit the game (back to the home screen).

Main Menu

TBD. If we obtain our stretch goal of integrating Google Play services, there will be options for logging in and out of the app and completely disconnecting the account from the app (if the latter is an option).

Results Screen

The results screen would display at the end of a game to display the stats for that round (category and score) and give them the option to play again.

Navigation

- A description of how the UI for your app will be organized, including a list of the activities your app will include, a description of how the user will navigate between those activities, a description of any major non-navigation interactions the user make use, and a description of any notifications the app will display.

Prototyping

