Baby Genius

Team 282

- Shen Guan
- Zheng Wang
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Background

- Kids online learning platform: include e-books, e-learning videos and educational games

Purpose

- Encourage kids enjoy learning
- Develop children’s intelligence and learning ability

Team work

Work Division	Person in charge
Register/login/forget password/email confirmation	Shen Guan
Video	Yuheng Wang
Reading	Zheng Wang
Game	Shen Guan

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Reading Part

Goals in Sprint Backlog

Function	
Book Search via Google Book api	✓
Integrate PDF viewer in the web app	✓
Select books by category or level	✓
Related books recommendation	✓
Related series display	✓

Progress

- Search books in Google Book using keyword:
  - Google Book API for retrieving related books using keywords (full-text search) by implementing javascript in the front end.
  - Top 10 relevant books searched by the keyword will be displayed in the page.
  - The retrieved books could be sorted by title, author or the year of publishment.
- View Books in PDF format or Online:
  - Each book could be displayed and viewed in the browser.
  - Books are embed in the web page for online reading.
- Sort / Recommend Books by category or level
  - Books could be sorted by different categories and levels
  - Related books are recommended and displayed to users.

Problems

- Book files (.pdf) should be handled and stored in a more efficient way.
- Books retrieved from Google Books are not quite related with Kids Education.
- User Permission (authorization) should be considered.

Expectations

- Fix the problem mentioned in the previous slide.
- Add user authorization module (eg, only admins could manage books).
- Implement preview function for Books retrieved by Google Book api.

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Video Part

Goals in Sprint Backlog

Function	
Video Search based on keyword	✓
Return highest rating video from the search result	✓
Embed video streaming	✓
Related video recommendation	✓
Video series selection	✓

Progress

- Embed video streaming:
  - Use YouTube Player API for iframe Embeds, video source is http://www.youtube.com/embed/*videoID*
- Search by keyword:
  - Call search list functions using gapi.client from YouTube Data API in javascript
  - all videos return is related to children and filtered by strict safe search
  - customized sorting by ratings or view counts, default is relevance
- Watch by video tag:
  - Send request with playlist ID to https://www.googleapis.com/youtube/v3/playlistItems to retrieve all videos
  - Top 3 relevant videos with same keyword will be displayed as the recommendation videos
  - Watch next video by hyperlink

Problems

- Some videos returned by YouTube Data API may be deleted and have invalid video IDs.
  - Go through all videos in the playlist first, and filter out invalid videos
  - Retrieve more videos for recommendation until we can found 3 valid videos

Expectations

- Videos in the playlist can be auto played one by one
- Videos shown in dashboard are dynamic, top 3 highest view counts video will be selected

Game Part

Goals in Sprint Backlog

Function	
Game difficulty level selection	✓
Play game (display math questions, select the answer and check the correctness, display the score when the game ends)	✓
Count down timer	✓
Display top 3 most recent score of the user	✓
Record history scores of the user	✓
Rank highest scores of all users on the scoreboard	✓

Progress

- Interesting and interactive UI design
  - Display the math questions in fruits instead of pale numbers.
  - Use javascript to load questions.
  - Users get instant feedback once they move to the next question.
- Relational model design
  - Design the models of Question, Game, and Score.
  - Each game will randomly select 10 questions from the question bank and they are in a many-to-many relation.
- Function Realization
  - Game logic: check the choice of the user with the answer, send back the true or false and the next question to the front end, and update the score of the game as well.
  - Scoreboard: select the highest scores group by each user and rank them.

Problems

- The javascript file exposed to the user the url of changing the database.
  - Originally defined a variable of score in javascript and put all the logic in js.
  - Now move the logic to views.py, however, still possible for users to cheat.

Expectations

- Design the logic better, hide it from the user and prevent users from cheating.
- Make the UI more interesting and interactive.

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Demo Time

Q&A