

RefReps



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Design Items: Business Requirements

BR1 - Combine content from RefReps and RefPrep into one learning platform

BR2 - Create a reliable learning management system the client can control

BR1 - Combine content from RefReps and RefPrep into one learning platform

Previously the client had to create a duplicate of all videos needed for each course for each organization using the course in order to keep track of video viewership and report back stats to the customer. The videos from RefReps couldn't be used in an educational context. This creates high costs to the customer who has to manage the storage for the hundreds of videos that may belong to one course. The client wants to create a single base of videos to refer back to with unique reporting so the storage costs can be minimized.

BR2 - Create a reliable learning management system the client can control

Previously the client had many issues with their previous software, Teachable, that created problems with watching videos, not correctly identifying when tasks had been completed, releasing all course content at once and not limiting students to follow course flow, and poor quiz design. The client wants to be able to have more control over how the content is delivered and improve how that content is shown to the user. To put more control in the hands of the client and not have to rely on outside software to handle the courses they are distributing to the clients.

Design Items: Use Cases, Actors

Owner

- Refreps admin, the company

Author

- The instructor who is proctoring that instance of the course

Student

- the user currently taking the course

Database 1: User Account

- houses the User information

Database 2: Videos

- houses the videos from RefReps

Design Items: Use Cases

UC1 - Automate the course creation process

Actor(s): Owner

BR2

UC2 - Add and edit course curriculum

Actor(s): Owner, Video Database

BR2

UC3 - Upload videos from the database

Actor(s): Owner, Video Database

BR1 and BR2

UC4 - Track and report video viewership

Actor(s): Owner, User Database, Video Database

BR1

Design Items: Use Cases

UC5 - Add multiple choice quizzes

Actor(s): Owner

BR2

UC6 - Allow Author to set release schedules

Actor(s): Author

BR2

UC7 - Be accessible from IOS, Android, and web

Actor(s): Owner, Author, Student

BR2

Design Items: Functional Requirements

FR 1: The learning management system shall be automated with a course creation process. (High) BR2

FR 2: The learning management system shall use templates for authors to base their course off of when creating a new course. (Medium) BR2

FR 3: The Author shall be able to add to/edit their curriculum (Videos, Quizzes, Descriptors). (Medium) BR2

FR 4: The Author shall be able to add students to their curriculum (From csv files). (Medium) BR2

FR 5: The Author shall be able to view student reports and certificates within their curriculum. (Low) BR2

Design Items: Functional Requirements

FR 6: The Student shall be able to view & access any materials that the Author provides them. (High) BR1 and BR2

FR 7: The Student shall be able to access their certificates and reports. (Low) BR2

FR 8: The Owner (Company) shall be able to view courses and students that are in the system. (High) BR2

FR 9: The Owner (Company) shall be able to remove any courses and students that are in the system. (High) BR2

FR 10: The Owner (Company) shall be able to edit any courses and students that are in the system. (High) BR2

Design Items: Functional Requirements

FR 11: The Owner shall be able to add to/edit their curriculum (Videos, Quizzes, Descriptors). (Medium) BR1 and BR2

FR 12: The Owner shall be able to add students to their curriculum (From csv files). (Medium) BR1 and BR2

FR 13: A Course shall have a limit of how many students can be placed in it. (Low) BR2

FR 14: A Course shall have a specified number of classes that it will have. (Low) BR2

FR 15: A Course shall have a lecture drop system that allows modules to be accessed/opened at a certain date/time. (Medium) BR2

Design Items: Functional Requirements

FR 16: A Course shall show a detailed report of the amount of students who watched/finished a video. (High) BR2

FR 17: An Author will be able to add sub-videos on a module that is an additional requirement for students to watch. (Low) BR2

FR 18: The database should report student video analytics like: watch time, views. (High) BR1 and BR2

FR 19: The database should report video analytics per corporation. (High) BR1 and BR2

Design Items: Non-Functional Requirements

NR 1: Upload videos to AWS s3 database for streaming. (High) BR1

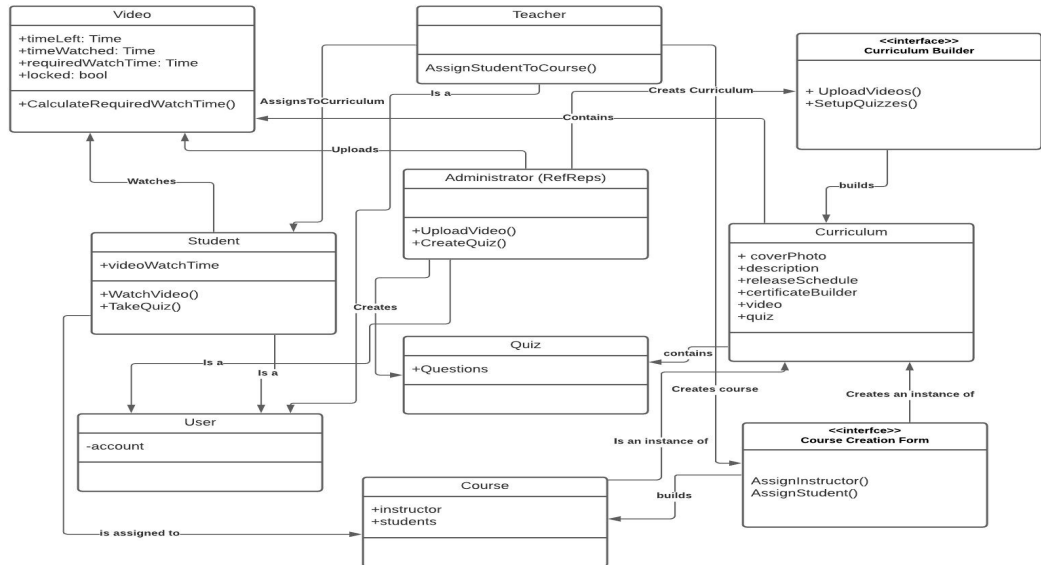
NR 2: Use logins from [name] database. (High) BR1

NR 3: Accessible on IOS, Android and websites. (Medium) BR2

NR 4: The system will use logins connected to the current database of users from Refreps. (High) BR1

NR 5: The system should point to one set of course materials per curriculum, and separate data by organization/required data sets. (High) BR1

Design Items: Domain Model



Video

Videos will enforce student watch time. A video is locked until the previous video's required watch time has been met. Videos are provided by RefReps team through Database access.

Curriculum

A curriculum contains all the quizzes and videos a student must complete. A curriculum will display a cover photo and description when displayed in a view. Ideally, a curriculum would have a release schedule for videos and quizzes, and a certificate builder.

Curriculum Builder

A curriculum builder is used to set up a curriculum. This will be done by an instructor filling out a form. An admin can use this to link curriculums to videos and quizzes.

Quiz

Quizzes can be either multiple choice or true and false. As a bonus feature, we could add short answer questions.

User

Users are anyone who accesses the RefReps platform. They use an account to access the RefReps system.

Administrator

The administrator (usually someone at the RefReps team) manages videos and quizzes. An administrator is a user.

Student

Students are the main users who watch videos and take quizzes. The system will track what videos they've watched, and they're video watch time.

Teacher

Teacher's can assign students to a course.

Course Builder

The course builder is a form that instructors use to create a course. A course is generated based on a chosen curriculum provided by RefReps. (e.g, RefReps creates Basketball Officiating 101, then while filling out the course builder form, the instructor selectes Basketball Officiating 101 and the course is generated based on what RefReps has inside of Basketball Occiciating 101).

Course

A course is what students and instructors actually interact with. A course is essentially an instance of a curriculum.

Design Items: TechStack

IDE

- VS Code

Database

- MongoDB
- AWS S3

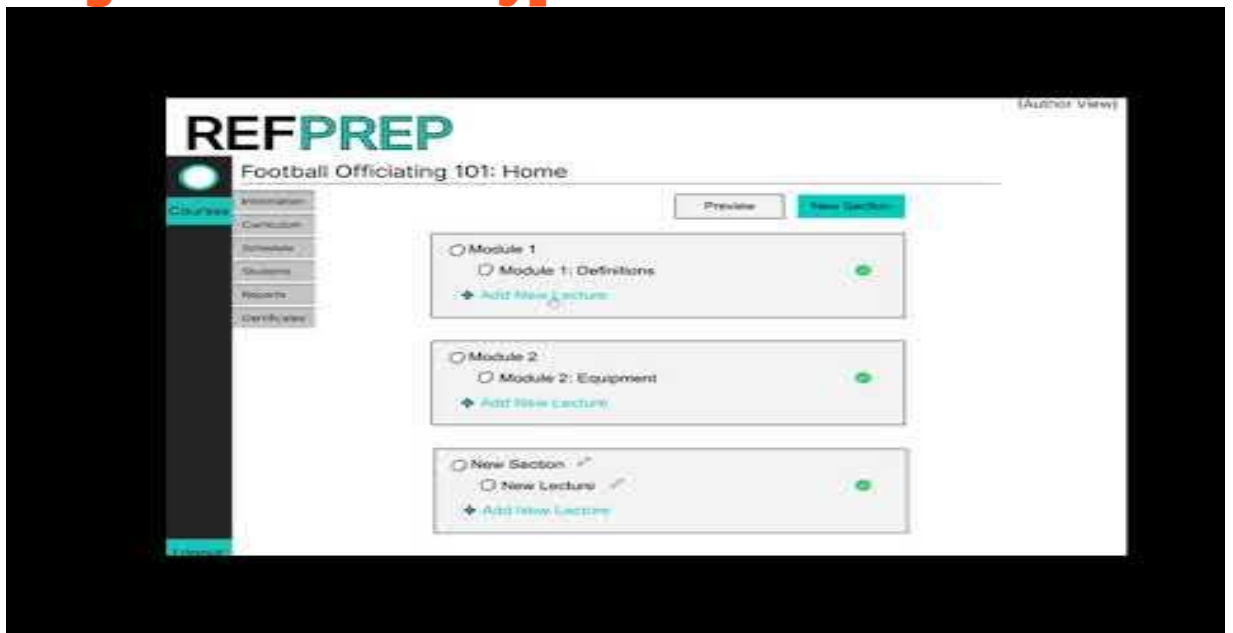
Front End

- Angular (typescript)

Back End

- Node.js

Design Items: Prototype



<https://www.youtube.com/watch?v=5Sgc-F2zcyl&t=4s>

Actual link in case above doesn't work

Design Items: First Iteration Features

Admins should be able to create curriculums

Admin should be able to upload videos to curriculums

Students should be able to play videos with enforcements on watch time

Video player should track number of views

Admins should be able to add quizzes to curriculums.

Mentor Feedback

Make sure the client isn't asking too much.

- During next meeting, we made sure to clarify exactly what the client wants.

Client Feedback

For NR5, was “The system should not allow duplicate videos”. Client suggested changing to “The system should point to one set of course materials per curriculum, and separate data by organization/required data sets”

Added functional requirements to better define what each type of user can do

Interesting Slide



This is Jacob's dog Kollin. He's just over a year old. He's a German Shorthaired Pointer, born and raised at the Hotwired family kennel, owned by the Cecil family. He is a good boy.