

Solution Design Document

Project: School Subject Database/WebApp Project

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1 ARCHITECTURE

1.1 WEB FRAMEWORK

HTML, CSS, Javascript

Node.js will be used for CRUD operations/Business functions and connectivity to database including authorization and authentication.

2 DATA ACCESS DESIGN

2.1 MODEL DESIGN (DATA MODEL)

MongoDB is the chosen database for this project. As there are no relationships in our data set an NoSql data model was the obvious choice. This was also chosen because there is no limit or model to the data being entered. Authorized users may enter any amount of information about a particular subject. There will be one database with one collections where all the documents will be inside of.

2.2 FUNCTIONAL DECOMPOSITION

Admin - all CRUD operations, create, read, update, and delete. Create Users, modify user information. Create collections.

Tutors - read and write access to subjects database

Students - read access to subjects database

3 SECURITY DESIGN

3.1 USER ROLES AND PERMISSIONS

Admin - all CRUD operations, create, read, update, and delete. Create Users, modify user information. Create collections.

Tutors - read and write access to subjects database

Students - read access to subjects database

4 USER INTERFACE DESIGN

4.1.1 User Story 1

Student wants to browse articles by category.

Using the web application a student can query the database by category to read their desired result

4.1.2 User Story 2

Tutor wants to create a new article in the database

Using the web application a tutor can fill in the desired fields and post a new collection to the database.

4.1.3 User Story 3

Admin wants to change the password for tutors.

Using the Atlas database web application, the Admin can edit user information and change the password for tutors.

4.2 UI DESIGN

Single page web app. Nav menu displays either an article creation form or a search bar. “Edit” and “delete” options added next to each document shown on screen for authorized users (not shown in image below).

