University of Essex

CAPSTONE PROJECT DISSERTATION

GoLearn - Learning Resource Management System

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April 10, 2024

Colchester

Abstract

There are plenty of services and programs out there for allowing Teachers to upload resources and for their learners to access them. Most of these are not purpose designed for places of learning, such as school, colleges and universities. Those that exist for this specific use-case tend to be over-engineered and can be overly complicated (Moodle is a good example of this). The purpose of GoLearn is to provide a simple LRM experience for teachers and students to interact with the same resources without a large amount of overhead in setting up the system: it should work out of the box.

This report contains a look into methods of implementation for web applications in general, plus the choices in technology and design that were made for GoLearn.

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Introduction

Background

2.1   Similar Services

There are various LRMS's available in the market, with some of the more popular one being:

Udemy is a free to access learning site that puts a paywall over all of the courses. Creators can sign up to the site and create a course very quickly. Learners can sign up to courses (paying whatever charge is applied) and have unlimited access to them. They can access these from their own 'Courses' dashboard.

Skillshare offers a different business model to generate income from courses. Where Udemy uses a Course as a Product model, SkillShare provides a Subscription service to access all content that they provide. Teachers are then paid out based on their course metrics [1].

The student experience of SkillShare is very similar to that of Udemy, providing a simple and clean UI/UX for them to interact with the service and classes. The Teacher experience is somewhat different in terms of signing up, but the actual course creation is very similar. [2][3]

LearnDash is a WordPress plugin that allows you to create and sell courses on your WordPress site. It is a very popular plugin, with over 50,000 active installs and a 4.5-star rating on the WordPress plugin repository. It is a very powerful plugin, with a lot of features, but it is also very complex and can be difficult to use. [4]

Being a plugin for WP, it is very easy to customise how the plugin looks by modifying the theme on the site to best suit the business / individual's needs. The plugin allows

teachers to create courses and students to access them, with a lot of customisation options for the courses.

Moodle is the closest comparison that I can find to the product that I was aiming to create. It is a PHP based LMS that is very powerful and feature-rich.

2.2 Tech Stacks

A 'Tech Stack' is the term used to describe the combination of programming languages, frameworks, libraries, and tools that are used to build a software application. The choice of a tech stack is crucial as it can affect the performance, scalability, and maintainability of the application. The following are some of the popular tech stacks used in web development:

LAMP/LEMP Stacks

MEAN/MERN/MEVN Stacks

2.3 Databases and ORMs

what is a database. what is an ORM popular databases and ORMs

Technical Specification

3.1   Framework

Which stack was chosen and why which framework was chosen within that stack and why

3.2   Database and ORM

Which database was chosen and why which ORM was chosen and why

Implementation

4.1 Authentication

4.2 User Management

4.3 CRUD Operations

4.4 Data Loading

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