



University of Essex

School of Computer Science and  
Electrical Engineering

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## CAPSTONE PROJECT DISSERTATION

# GoLearn - Learning Resource Management System

**Bradley Beasley**

Supervisor: **Dr Alexandros Voudoris**

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## **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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# Contents

<b>1</b>	<b>Introduction</b>	<b>3</b>
<b>2</b>	<b>Background</b>	<b>4</b>
2.1	Similar Services . . . . .	4
2.2	Tech Stacks . . . . .	5
2.3	Databases and ORMs . . . . .	5
<b>3</b>	<b>Technical Specification</b>	<b>6</b>
3.1	Framework . . . . .	6
3.2	Database and ORM . . . . .	6
<b>4</b>	<b>Implementation</b>	<b>7</b>
4.1	Authentication . . . . .	7
4.2	User Management . . . . .	7
4.3	CRUD Operations . . . . .	7
4.4	Data Loading . . . . .	7
4.5	Known Issues . . . . .	7
<b>5</b>	<b>Testing</b>	<b>8</b>
5.1	Unit Testing . . . . .	8
5.2	User Testing . . . . .	8
<b>6</b>	<b>Project Planning</b>	<b>9</b>
<b>7</b>	<b>Conclusions</b>	<b>10</b>

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# Introduction

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## 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** is a similar service to Udemy, but is subscription based rather than pay per course. This means that learners can access all of the courses on the site for a monthly fee. Creators can create courses and upload them to the site, with the same access restrictions as Udemy.

**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. [1]

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**[2] is the closest comparison that is currently available to GoLearn. It is a PHP based LMS that is very powerful and feature-rich. It allows learning institutions to design

their own courses/modules and add specific 'student' users to them. This is a very similar model to what GoLearn is aiming to achieve. The main difference is that Moodle is very complex and can be difficult to use. It is also very resource-intensive, requiring a lot of server resources to run effectively.

## 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

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## 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

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## Implementation

### 4.1 Authentication

### 4.2 User Management

### 4.3 CRUD Operations

### 4.4 Data Loading

### 4.5 Known Issues



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## Testing

### 5.1 Unit Testing

### 5.2 User Testing

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## Project Planning

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## Conclusions

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## Bibliography

- [1] J. Ferriman, "Learndash 3.0." <https://www.learndash.com/best-wordpress-lms-plugin/>, 5 2019.
- [2] Moodle, "Moodle." <https://moodle.org/>, 1 2024.