

# A+ Inc. LMS

Ryan Pflugradt | Learning Management System  
<http://fsdp.RyanPflugradt.com> | December 9, 2020



## About

My background is in Commercial Property Insurance, and I have a Bachelor's Degree in Economics. I have worked in the insurance industry for the past 12 years and have gained a tremendous amount of skills that cross over with development. I have been coding in my spare time and love learning about technology; because of my passion for technology, I decided to pursue a career in IT to do what I love to do daily.

One of my favorite things about coding is problem-solving. When I come across a problem that I have to think about, make a plan and execute is when I have the most fun. It is gratifying to find a solution and see it in action. I also like to research best practices and align my thought process with that.

Throughout the Full-Stack Developer track, we got to use different technologies from the front end to the database. We touched on React, and I made a weather app, which you can see on my personal site. I want to learn more about react and gain more experience with that technology.

I chose to do a Learning Management System ("LMS") for my final project at Centriq. I wanted to make an LMS because it is something that I've used a lot throughout my professional career, and I wanted to put my spin on it. Many of the LMS systems that I've seen and used are outdated and could use a modern refresh. I had a lot of fun thinking about it and making it come to life.

# PROJECT REQUIREMENTS – LEARNING MANAGEMENT SYSTEM

## **Background**

The LMS project's goal is to create an application where employees can complete courses related to their job. Each employee is required to complete six courses per calendar year. The system should allow employees to sign in to view courses and lessons for a course. The employee should also be able to track and view their progress towards the 6 per calendar year goal. Once a course is completed, the LMS should email their manager informing them of the completion. Managers should be able to view employee progress toward achieving six courses for the year and view the courses and lessons completed. The Admin should have CRUD functionality for courses and lessons; when creating a course, they should have the ability to include a YouTube video or a PDF for the lesson.

### *Administration Capabilities:*

- CRUD functionality for courses and lessons.
- Upload PDFs as lesson resources, view and manage unpublished courses.

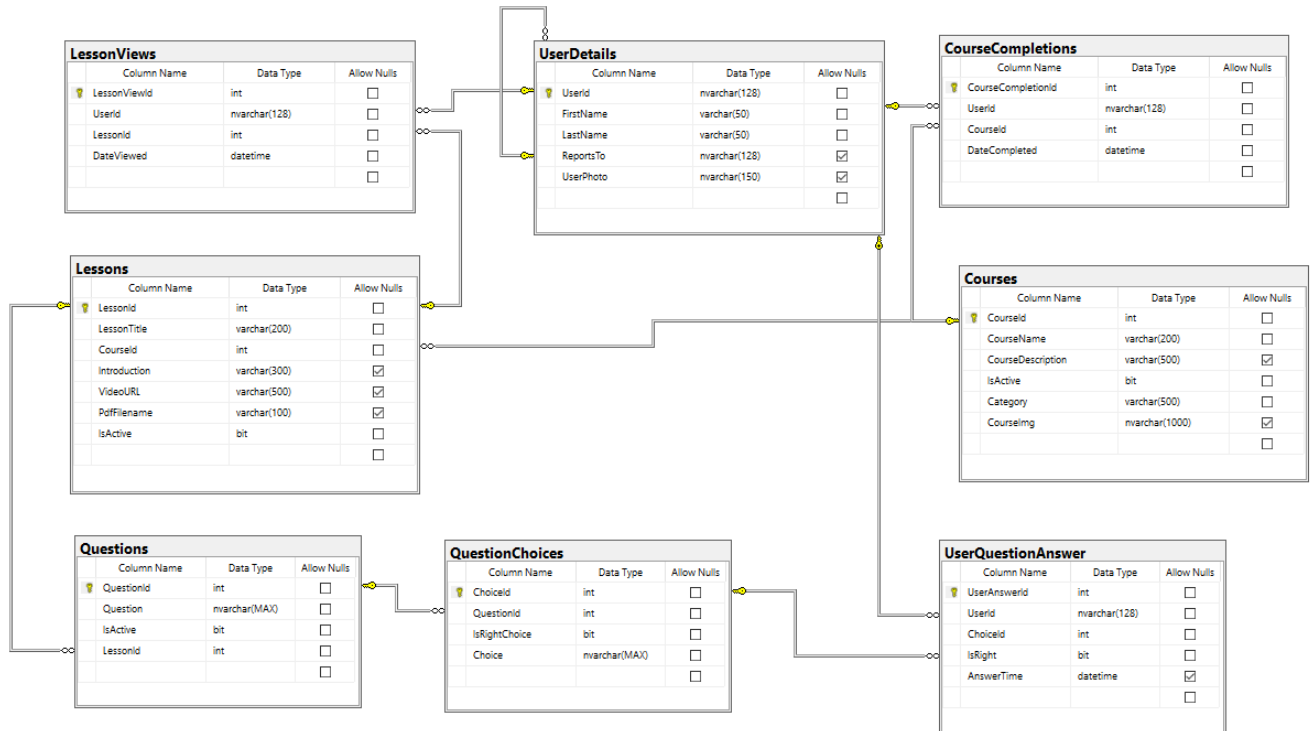
### *Manager Capabilities:*

- View employee progress toward completing 6 courses for the year and view courses and lessons completed
- Be notified via email when an employee completes a course

### *Employee Capabilities:*

- View lessons and view personal progress toward 6 courses for the year

## ER DIAGRAM – DATABASE SCHEMA



There are a few additions to the database that was made such as:

- UserDetails: ReportsTo, and UserPhoto
- Courses: Category and CourseImg
- Tables: Questions, QuestionChoices, and UserQuestionAnswer – The question related tables added are for version 2 of the application, due to deadlines this was not part of the first Sprint to get an MVP to production.

## USE/CASE DIAGRAM

### CRUD Capability

(courses & lesons)	Create	Read	Edit	Delete
Administrator	x	x	x	x
Manager		x		
Employee		x		
Anonymous		x		

Courses	List	Details
Administrator	x	x
Manager	x	x
Employee	x	x
Anonymous	x	x

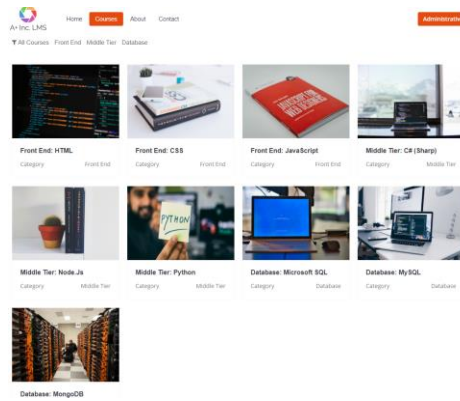
Lessons	Take Lesson
Administrator	
Manager	
Employee	x
Anonymous	

Home Views	Index	About	Contact
Administrator	x	x	x
Manager	x	x	x
Employee	x	x	x
Anonymous	x	x	x

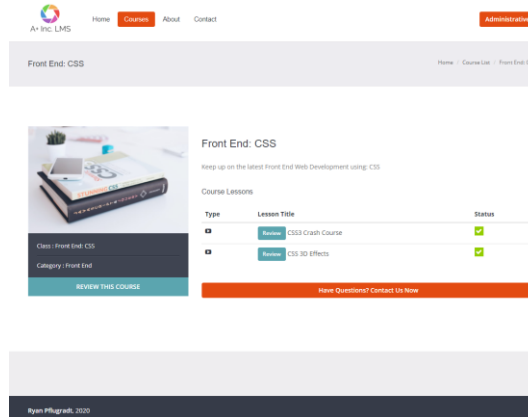
Reports	Employee	Manager	Administrator
Administrator			x
Manager		x	
Employee	x		
Anonymous			

## USER INTERFACE

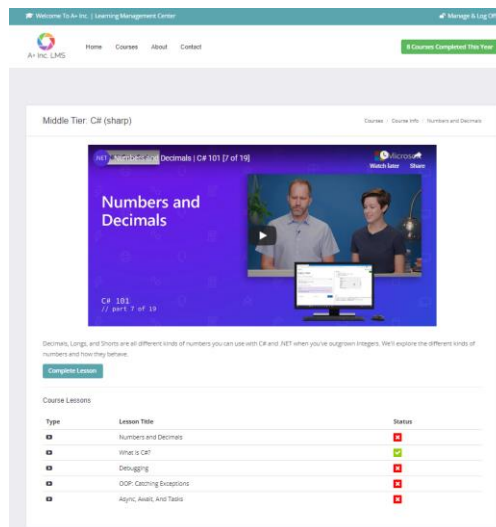
### Course List:



### Course Detail:



### Lesson:



## SEO LINKS – TO COURSES AND LESSONS



⚠ Not secure | fsdp.ryanpflugradt.com/Course/Details/1-front-end-html

```
35 [MetadataType(typeof(CourseMetadata))]  
36 public partial class Course  
37 {  
38     public string GenerateSlug()  
39     {  
40         string phrase = string.Format("{0}-{1}", CourseId, CourseName);  
41  
42         string str = RemoveAccent(phrase).ToLower();  
43         // invalid chars  
44         str = Regex.Replace(str, @"[^a-z0-9\s-]", "");  
45         // convert multiple spaces into one space  
46         str = Regex.Replace(str, @"\s+", " ").Trim();  
47         // cut and trim  
48         str = str.Substring(0, str.Length <= 45 ? str.Length : 45).Trim();  
49         str = Regex.Replace(str, @"\s", "-"); // hyphens  
50         return str;  
51     }  
52  
53     private string RemoveAccent(string text)  
54     {  
55         byte[] bytes = Encoding.GetEncoding("Cyrillic").GetBytes(text);  
56         return Encoding.ASCII.GetString(bytes);  
57     }  
58 }  
59  
60
```

```
8 namespace LMS.UI.MVC.Utilities  
9 {  
10     public class SeoRoute : Route  
11     {  
12         public SeoRoute(string url, RouteValueDictionary defaults, IRouteHandler routeHandler) : base(url, defaults, routeHandler)  
13         {  
14         }  
15  
16         public override RouteData GetRouteData(HttpContextBase httpContext)  
17         {  
18             var routeData = base.GetRouteData(httpContext);  
19  
20             if (routeData != null)  
21             {  
22                 if (routeData.Values.ContainsKey("id"))  
23                     routeData.Values["id"] = GetIdValue(routeData.Values["id"]);  
24             }  
25  
26             return routeData;  
27         }  
28  
29         private object GetIdValue(object id)  
30         {  
31             if (id != null)  
32             {  
33                 string idValue = id.ToString();  
34  
35                 var regex = new Regex(@"^(?<cid>\d+).*$");  
36                 var match = regex.Match(idValue);  
37  
38                 if (match.Success)  
39                 {  
40                     return match.Groups["id"].Value;  
41                 }  
42             }  
43  
44             return id;  
45         }  
46     }  
47 }
```

```
12  
13 routes.Add("CourseDetails", new SeoRoute("Course/Details/{id}",  
14 new RouteValueDictionary(new { controller = "Course", action = "Details" })),  
15 new MvcRouteHandler());  
16  
17 routes.Add("LessonDetails", new SeoRoute("Lesson/Details/{id}",  
18 new RouteValueDictionary(new { controller = "Lesson", action = "Details" })),  
19 new MvcRouteHandler());  
20  
21 routes.MapRoute(  
22     name: "Default",  
23     url: "{controller}/{action}/{id}",  
24     defaults: new { controller = "Home", action = "Index", id = UrlParameter.Optional }  
25 );  
26 }  
27 }  
28 }
```

# Ryan Pflugradt

FULL-STACK DEVELOPER

816-390-6021

Ryan.Pflugradt@Outlook.com

www.RyanPflugradt.com



linkedin.com/in/ryan-p-dev

## Qualifications

---

- Solid foundational knowledge of designing and developing full-stack web applications using .NET framework.
- Use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- Well organized, a great planner, and deadline driver when working on projects.
- Project team lead for a large insurance claims platform which impacted approximately 10,000 users.
- Developed use cases, test cases, and business rules as part of the software development life cycle.
- Experience writing and delivering training materials for end users.

## Technical Skills

---

**Front End:** HTML5, JavaScript, jQuery, jQueryUI, CSS3, Responsive/Mobile Web Development, Bootstrap, ReactJS

**Middle Tier:** Visual Studio, C#.NET, ASP.NET, LINQ, MVC, EF, PHP, Python, Node.JS

**Back End:** ADO.NET, SQL, SQL Server, SSMSE, MongoDB

## Independent Development Projects

---

- **Personal Site:** [www.RyanPflugradt.com](http://www.RyanPflugradt.com)
- **StoreFront:** Created a secure application for managing product data. Application is built to simulate an online store front with a shopping cart. Administrators have the ability to manage product, category and vendor data.
- **Weather App:** Created a Single Page Application (SPA) with Create-React-App that uses ES6 Functional Components with Hooks. The App consumes data from the OpenWeatherMap API.
- **Final Project:** Created a secure data-driven ASP.NET MVC application from design through deployment for managing training and continuing education with a Learning Management System within a company. Administrators have the ability to manage employee, department data and all details relating to assigned learning requirements.

## Technical Training and Education

---

**CENTRIQ TRAINING | KANSAS CITY, MO**  
FULL-STACK WEB DEVELOPER PROGRAM

2020

### *Core Competencies:*

- MVC Framework
- Trouble Shooting & Debugging
- Source Control
- Agile/Scrum (Created Team Project)
- Website Deployment
- Pair Programming

- Code Review
- Professionalism, Teamwork, Problem Solving & Effective Communication

**MISSOURI WESTERN STATE UNIVERSITY | ST. JOSEPH MO**

**2008**

BACHELOR OF SCIENCE IN ECONOMICS

## Professional Experience

**FEDERATED INSURANCE | OVERLAND PARK, KS**

**2019 - 2020**

COMMERCIAL PROPERTY ADJUSTER

- Investigated, evaluated, and settled claims by applying technical knowledge and human relations skills to effect fair and prompt disposal of cases and to contribute to a reduced loss ratio.
- Adjusted reserves or provided reserve recommendations to ensure that reserve activities were consistent with corporate policies.
- Handled complaints, settled disputes, and resolved grievances and conflicts, or otherwise negotiated with others.

**FARMERS INSURANCE | OLATHE, KS**

**2012 - 2019**

COMMERCIAL PROPERTY ADJUSTER

- Examined claim forms and other records to determine insurance coverage.
- Investigated and assessed damage to property and created or reviewed property damage estimates.
- Interviewed or corresponded with agents and claimants to correct errors or omissions and to investigate questionable claims.

**USER ACCEPTANCE PROJECT TEAM LEAD**

**2011 - 2012**

- Worked with Line of Business units and IT to ensure flawless development and rollout of a new claim handling platform to be used by 10,000+ employees.
- Wrote, reviewed, and provided level one approval of Change Requests.
- Assisted with training to deliver to end-users.

**HOMEOWNERS PROPERTY ADJUSTER**

**2008 - 2011**

- Handled property claims including but not limited to fire, lightning, theft, and other weather-related disasters.
- Piloted and tested several initiatives for claims handling such as Eagle View and Xactimate.