Build a Complete Web App with Ruby on Rails in Under an Hour

Description

Introducing Ruby on Rails, a full-stack framework that ships with all the tools needed to build amazing web apps on both the front and back end! In this workshop, you'll build your own web application from start to finish in only an hour with Rails. We will walk you through the process of creating a movie watchlist. Rails is a great tool to go with to kickstart your hackathon project and finish a working prototype within a short amount of time, so you have time for all the bells and whistles. Hackers of all levels of coding experience are welcome, even those totally new to programming!

Learning Outcomes

After this workshop, you will be able to:
- Build a complete application with Ruby on Rails
- Work with Git and Github
- Apply knowledge of MVC architecture, CRUD operations, and database relationships to your hackathon projects

Prerequisite Knowledge

While **not necessary**, these skills are nice to have for this workshop:
- Basic knowledge of Git and Github
- Basic knowledge of MVC architecture
- Exposure to object oriented programming
- Exposure to the command line

Pre-Workshop Checklist

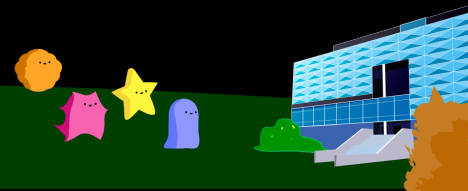Before the workshop, please make sure you complete the following items:

- Install Ruby on Rails
- Install VSCode, or you can use a code editor you feel comfortable with
- Clone this repository
- Request an API key from The Movies DB
- Bring a sheet of paper and a pencil if that's your preferred way to jot things down!

Technical Jargon and Definitions

- **Frontend:** The user-facing part of a web application.
- **Backend:** The server-side part of a web application that users can't see, usually responsible for storing and manipulating data.
- **Framework:** Tool that provides customized components or solutions that are already made in order to speed up development.
- **MVC:** An acronym for "model-view-controller," refers to a software design pattern that separates the logic of an application from the display.
- **Models:** Ruby classes that talk to the database and perform CRUD operations.
- **Views:** ERB (embedded ruby) files that contain frontend code for what the user sees, and shares data with controllers.
- **Controllers:** Coordinates interactions between the user, views, and models. Also responsible for routing actions.
- **CRUD:** An acronym for "create, read, update, destroy," refers to the four necessary functions that a model should have.
- **Gem:** A library or program that can be imported into a Ruby project to provide extra functionality.
- **Associations:** Connections/relationships between models.
- **Validations:** Used to ensure that only valid inputs are saved to your database.
- **Migrations:** A tool for changing your database schema over time.
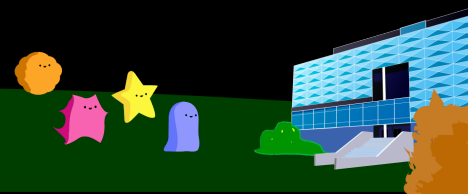
Timeline (60 minutes)

Time	Module	Description
4 mins	What is Ruby on Rails?	A brief history of Ruby and Ruby on Rails, and common applications of the framework.
3 mins	Set up/Tools Overview	A quick review of everything that should have been set up prior to the workshop and an overview of each of the tools being used.
3 mins	Project Structure Review	Take a look at the repository you cloned and go over some of the key files and folders you'll be working in.
5 mins	MVC Architecture	What is MVC architecture? How is it useful when building applications?
18 mins	Models and Relationships	A brief overview of how to design a

		good database. Design and code the models necessary for the data.
12 mins	Controllers	What are the CRUD operations? Create controllers for your models.
5 mins	Build the View	Time for the fun part! Here you will build out the view, i.e. the frontend.
10 mins	Wrapping Everything Up!	Some buffer time to answer questions and offer help.

Workshop Lead Contact

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Additional Resources

Hack the North Resources

Hack the North 2022 Event Schedule

Check this out to stay up-to-date on activities, workshops, and other key happenings this weekend.

Workshop-Specific Resources

Ruby on Rails Documentation

The official Ruby on Rails website.

Cloning a Github Repository

Official Github documentation to help you get started with preparing for this workshop!

Starter Code

Please clone this repository before attending the workshop.

The Movie Database API Website

Prior to the workshop, you will need to request an API key from TMDB by following the instructions on this page. If you'd like to explore the API, navigate to "Movies" using the sidebar and take a look at some of the data you can request.

themoviedb

A Ruby wrapper for The Movie Database API that we will be using to make our lives a little easier.

Ruby on Rails Migrations Reference

A quick reference on how to write and run Ruby on Rails migrations.

Active Record Querying Guide

A reference for querying with Active Record.