**Other Frameworks**

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| **Ruby On Rails (RoR)** | |
| **Description** | Open Source Framework for Web Development in Ruby  OOP language similar to Python  MVC (Model, view, controller) framework, all layers are provided by Rails (see [RoR Guide](https://guides.rubyonrails.org/) for examples and explanations)  Can also use MySQL |
| **Uses** | Back end.  Rendering HTML templates and maintain live pages via WebSockets  updating databases  sending and receiving emails |
| **Pros** | Simple and easy to learn.  If our application is expanded upon, new developers can be trained quickly.  Everything built into one due to the MVC framework |
| **Cons** | Inflexible  Slower performance  We would have to keep applications reasonably simple to conform to RoR’s needs, although a university project may not exceed it’s scope. |
| **Examples** | GitHub, Airbnb, Kickstarter, Instacart (food shopping) |
| **Resources** | [RubyOnRails Website](https://rubyonrails.org/), [Pros and Cons](https://www.computer.org/publications/tech-news/build-your-career/developers-insight-into-the-ruby-on-rails), [RoR Guide](https://guides.rubyonrails.org/) |

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| **Vue.js** | |
| **Description** | JavaScript framework for building user interfaces  Declarative and component-based programming model, similar to JavaScript  Builds on top of HTML, CSS and JavaScript |
| **Uses** | Front end.  Creating interactive web interfaces and single page applications  Handle data updates and navigation without reloading the page |
| **Pros** | Easy to Learn  High Performance  Uses virtual DOM (Document Object Model)  Extensive Documentation  Fast Reaction  Useful for real-time update requirements  Flexibility |
| **Cons** | Difficulties with two-way binding  Lack of plugins  Less useful tutorials in English |
| **Examples** | Facebook, Netflix, Trivago, GitLab |
| **Resources** | [Vue.js website](https://vuejs.org/), [Pros and Cons](https://ddi-dev.com/blog/programming/the-good-and-the-bad-of-vue-js-framework-programming/) |

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| **Laravel** | |
| **Description** | Uses PHP  MVC Structure |
| **Uses** | Back End.  Can be used with Vue/React through Inertia  Good for booking web apps and Customer Relationship Management systems |
| **Pros** | Simple User Authentication  Scalable  Extensive Documentation, including tutorials and videos  Laravel Dusk is available to help with automated browser tests |
| **Cons** | Slower development compared to other frameworks |
| **Examples** | ALISON (e-learning) |
| **Resources** | [Laravel Website](https://laravel.com/), [Pros and Uses](https://linkupst.com/blog/laravel-pros-and-cons-for-web-app), [More Uses](https://linkupst.com/blog/laravel-pros-and-cons-for-web-app) |

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