

Contraint Category	Implementation Constraint	Solution
Hardware & Software Platforms	<p>Mac OSX update breaks code due to permission issues.</p> <p>Gem updates might also cause some dependancy issues.</p> <p>The project limits one to using only CSS, SQL, HTML & Ruby. So I won't be able to use SASS to rapidly generate CSS.</p>	<p>Avoid updating Mac during project and avoid doing gem updates.</p> <p>Only use my Mac to build the app in case my PC uses different versions of the code I need causing dependency conflicts.</p> <p>Dedicate more time to writing CSS since I won't be able to use SASS.</p>
Performance Requirements	<p>All CRUD functionality should take less than 20 seconds to run.</p> <p>I lack a knowledge of caching tools such as Redis or the time to properly understand them so won't be able to use them. This is a local running project so CDNs won't be able to help with the handling of resources nor will caching aides like Cloudflare or Varnish.</p> <p>JavaScript is forbidden in this project so performance enhancing aspects of Ajax can't be used.</p> <p>The bulk of the code has to be written in Ruby which is a programming language with poor performance levels when compared to older languages like Java, C++ and C.</p>	<p>I'm working on my local machine with no need for VPNs or virtual machines which would hinder performance. I also should involve handling enormous amounts of data that require resource intensive Ruby functions & SQL statements.</p> <p>I should also avoid installing any resource intensive software on my machine or one's that end up using ports intended for my local servers for Sinatra and my Database.</p> <p>Thankfully since the project will be demonstrated on my local device I shan't have to worry about the risk of denial of service attacks.</p>
Persistent Storage & Transactions	<p>Code to be stored on local device using PostgreSQL. Project is likely to be less than 100MB.</p> <p>The complexity of the project and the need to use multiple tables means storing data in simple text, csv or xml files will not suffice.</p>	<p>Local PostgreSQL database is adequate to house the size of the project.</p> <p>I can use the Postico GUI to get a better view of the data & use Normalisation improve the layout of my tables if they start to get too complicated or bloated.</p> <p>Restful transactions will be handled by Sinatra.</p>

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Usability	<p>Sinatra must be used as a front end for CRUD functionality. I can't just manually enter data in the database via SQL (unless for testing).</p> <p>I need to factor in Accessibility and remember some users might use screen readers.</p>	<p>Use Sinatra's MVC functionality and erb files so I have a front end to submit forms to my database</p> <p>To take screen readers into account I should remember to leave information in the form fields to describe what they concern eg "first name" field.</p>
Budgets	No Budget so no access to paid for software or the ability to hire professional tests and market researchers. Also limited to using my own hardware.	This must be all my own work and I have to use free software. My own MacBook is thankfully powerful enough to run the app I am making.
Time Limitations	1 Week with the goal of delivering a presentation at the end of it.	<p>Forbid any further coding on Wednesday afternoon to reduce the risk of breaking something before the presentation. This will also give a little time to prepare for the presentation.</p> <p>Request time extension from tutors only in dire circumstances such as illness. There is no way to chance the time constraint devoid of very serious circumstances.</p>