

School of Computing

Year 4 Project Proposal Form

SECTION A

Project Title: CoderDojo Zen Projects Showcase

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Stream: CASE

Project Supervisor Name:

SECTION B

Proposal Description

General area covered by the project

This project generally covers the following four topics with regard to showcasing youths' projects through the CoderDojo Zen community platform:

- Creation
- Organization
- Discovery / Promotion
- Management

Outline of the proposed project

- Background

In 2015, the CoderDojo Foundation (CDF) built the CoderDojo Community Platform which aims to provide the CoderDojo community with infrastructure to run their Dojo and to connect the global CoderDojo community.

One of the core features for 2017/2018 that they would like to add to the platform is the projects functionality. This is a youth orientated and targeted feature which allows young people to upload projects and share with the CoderDojo community through their own profile and their Dojo.

- Achievements

- ❖ **Showcase youth projects:** Projects created and uploaded by youths will be viewable in the forms of photo/video galleries, source code and interactive displays on their profile pages, Dojo pages and other pages on Zen.

- ❖ **Project versioning:** Projects will have versioning using an existing version control system (VCS).
- ❖ **Progress tracking and statistics:** Parents and Mentors will be able to more easily track the progress of youths through viewing their projects and also use these projects as evidence for awarding digital badges. For the CDF, more statistics will be made available through an “admin panel” relating to the use of their content in projects.
- ❖ **Improved learning resources:** Projects will be grouped using tags by language, sushi card, Dojo and region in order to provide better examples to users looking to work on their own projects or learn particular languages.
- ❖ **Project management and sharing:** Parents, Mentors, Champions, youths and the CDF will all be able to manage projects in different ways. Projects can also be shared to various social media by any users of the site provided the youth has allowed this in their project settings.

- Justification

The ability to showcase projects on Zen is something that the CDF sees a lot of value in for their users. It's mainly aimed at youth “Ninjas” who are likely to see the most benefit from it. However, it also has benefits for other members of the CoderDojo community such as Parents and Mentors who will be better able to track progress of youths and for the CDF themselves for statistics.

Programming language(s)

- JavaScript
- Scratch
- SQL

Programming tools / Tech stack

- VueJS
- AngularJS
- NodeJS
- SenecaJS
- HapiJS
- PostgreSQL database

Learning Challenges

- **Security issues:** There are security issues here which have to be dealt with regarding inappropriate content or language and/or malicious code in projects.
- **Flexibility:** Runtime for supported languages (Scratch) should be abstracted enough that it can be used easily for other languages in future.
- **Scratch:** I have no prior experience in using Scratch but I will need to support runtime for it.
- **File hosting:** Project files will need to be hosted and must also support versioning using the API of an existing VCS.

Hardware / software platform

Fedora 26 on a Hewlett-Packard laptop with an Intel i7 processor and 8GB RAM.

Special hardware / software requirements

None.