# Honours Project: Project Proposal

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## Overview

Supervised by Dr. Pierre-Paul Bitton and Dr. Adrian Fiech, I will be continuing development of the Nature's Palette (NP). NP is an open-access digital repository of spectral data which are contributed by researchers and is made easily accessible for anyone. In order to keep all data submitted to NP consistent, it uses a strict validation for submission which leads to many dataset submissions to fail. This leads to this Honours Project where we will figure out the causes and overcome this problem by creating an application that will pre-validate data before it is ready for final submission.

## Goal

To build a standalone offline dockerized application to pre-validate researchers' datasets and metafiles by existing validation rules and provide necessary user-friendly feedback automatically on how to resolve the issues.

## Objectives

1. Find a proper technology/framework for the application base that users can easily run locally without too many dependencies or downloads. The application must be cross-compatible across Windows, MacOS, Linux and ChromeOS.
2. The language preferred is Javascript in order to keep it consistent with the existing web application.
3. Explore different causes of failed validation such as typo, file-meta mismatches, unstandard format etc. and find solutions for them.
4. Improve matching algorithms to show more possible matches in the feedback.
5. Update the output structure of feedback listing all the potential solutions.
6. Allow one-click automatic changes to data or metafile from the potential solutions.