

# Proposal of Project

---

## What we're going to do

We are going to integrate p5.js into an online environment that will make it easy for anyone to access creative coding and start coding with p5 right away, without any setup. The environment will be Vidcode, a tool that lets anyone edit videos and photos with JavaScript in an online live coding environment. The interface allows anyone to upload and record their own video footage and build creative projects while learning computer programming. When they begin coding effects and animations on their videos, they see the changes happen live, as they type, creating a very powerful connection between the code and their projects. This lightweight setup requires no software installation, and mitigates the core issue for many beginners of setting up a development environment.

We will create lessons around p5, teaching programming concepts through the creative possibilities of p5. We will teach both video effects as well as the 3D possibilities to create projects from scratch!

We're also going to connect the power of p5 to other subject areas in schools. We're already working with Millennium@EDU and the U.N. to give students a platform to create and edit their own videos about climate change, a project taken up by science classrooms all over the world. We wrote about that project and collaboration on our blog - <http://www.vidcode.io/lovelyvidcode/2015/10/7/girls-code-4-climate-edu-contest>. We want to bring the power of video creation and creative coding into every classroom - English classes recording plays and adding special effects with code, science classrooms creating and modeling cells, physics classrooms learning about gravity - all using p5 and the wrapper lessons we create.

There are a lot of 'learn to code' tools on the web, but many of the 'non-traditional' ones are focused on gaming. We want to create an alternative for users to learn through being creative and making projects they love.

We're also creating a community around creative coding. Classes who take part in Vidcode have their own galleries where they can share work, and specific events, such as CS Ed Week, also have their own galleries, where students can inspire each other with their art and code. Here's an example - <http://app.vidcode.io/halloffame!>

## How we're going to do it

Video is at the core of what we do. The powerful medium of video allows and we have seen the effectiveness of this solution by using the photo and video footage from their own lives as an entry point to exploring programming.

On Vidcode, we've created lessons based on this idea, covering different programming concepts that students read through and learn as they build creative video projects.

We're integrating p5 into those lessons, and using it to replace and enhance our current effects and libraries. We're also going to create curriculum documents, lessons, unplugged activities and teacher training tools to go along with our online p5-based lessons. We're mapping learning through Vidcode and the p5 library to common core standards, giving all classes a way to combine Vidcode with their lessons.

## **Why we're qualified for the work**

Vidcode has evolved from Alexandra Diracles' Master's thesis at ITP. Vidcode was designed as an answer to engaging young women in programming through the lens of creativity.

The Vidcode team is now made up of four people, coming from strong education and technology backgrounds. We've been working on Vidcode for nearly two years, and have had incredible results. Just last week for CS Ed Week we saw really exciting results that we also wrote about on our blog - <http://www.vidcode.io/lovelyvidcode/2015/12/15/life-after-tech-jam-hour-of-code>

## **The project's expected results**

The most important expected result of the project is to introduce students to programming by giving them an entry point connected to their interests, through the magic of p5. We plan to track learning outcomes, and see how learning through Vidcode and p5 improves their understanding of computer science, improves their performance in other classes, and increases their interest to seek out other technology related classes and programs. We're creating tools so students, parents and teachers can all easily track this progress.

## **How this project will expand the possibilities of Processing**

By combining the creative possibilities of Processing technology with the online community of learners at Vidcode, an opportunity is opened to invite a massive new population of kids and adults to the power of computing. These new coders will become part of the Processing community, sharing their ideas and code, and inspiring others.

We will also open up our codebase to the Processing community. We have had to solve the problems of uploading, saving and exporting videos of many different file types, and created an interface where users can record themselves live and edit those videos. We believe that making what we have learned while we created these tools available to others will have great value in expanding the possibilities of Processing.