

# Disney Online

## Client

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## Application

Web technologies are developing at a fast pace - in particular WebGL compliant browsers and the Canvas element in HTML5 offer new levels of interaction and display for Rich Internet Applications. We intend to exploit this technology to build a world-class video creativity tool hosted on Disney's market-leading portal for digital creativity –[www.disney.com/create](http://www.disney.com/create).

The video collage (a.k.a. video mash-up) will allow artists to arrange and direct their own music videos using high quality Disney assets and custom effects and transitions created by studio artists. There needs to be a relatively straightforward way to arrange video clips, edit them (for example, trim the length), construct and arrange transition effects and view the final product. A successful project will allow all of this and more to be executed within a modern web browser.

In addition to a HTML5 Canvas based client-side front-end, a successful project will require a web back-end, to consume and store the final music videos, as well as supply resources that can be used to make the video. There is significant scope for technology exploration here – successful back-ends are likely to consist of Ruby code delivered through Rails, Sinatra or RubyRack, backing to a database and/or a distributed storage system. The backend must be built to support huge amounts of submitted artwork.

## Key technologies

A number of emerging technologies are relevant for this application. We believe the use of the following technologies will be key to the successful development of the application:

- HTML5 canvas: With some caveats, one of the most promising technologies for cross-platform interactive and animated display and entry.
- HTML5 WebStorage: Expanding JavaScript to allow better Model based designs, and allow offline processing on mobile devices
- Backbone.js: RESTful JSON allowing coordination between multiple clients and a common back end.
- Node.js: Front-end to back-end expression with a common language for web services
- Web workers: The ability to spawn off long-running sub-threads from persistent JavaScript threads. This allows compute-heavy rendering to be done whilst still maintaining some sort of user interface.
- Ruby: Our preferred scripting language for providing web services, using packagers such as Warbler.

- Socket I/O: In general, some understanding of the low-level plumbing that underpins modern day web application stacks always comes in handy.
- Amazon EC2: Supports offline transcoding in a flexible way
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## **Location**

Disney Online Studios is situated in downtown Boulder, one block from the Pearl Street Mall. Artists and engineers share the same space. It is expected that students be mostly present at the office.

## **Benefit to students**

This project will give students experience with

- Building a world class web hosted creativity application.
- High performance web stack for user generated content and the associated community
- Advanced javascript programming
- Modern database and distributed storage technologies
- Working with a very talented team in a cross disciplinary setting
- Potential for an internship (one slot remaining!)