Antonio Moreno

UROP Faculty Supervisor: Prof. Robert Miller

Term: Summer 2013

June 15, 2013

<div align="center">6.MITx, Creating Courseware for Course 6 MITx Subjects</div>

Project Overview:

I will be working under Prof. Robert Miller and Prof. Chris Terman on developing interactive technologies for MITx, particularly for course 6 classes. Since MITx is mainly web-based. I will be learning to utilize web technologies (HTML, CSS, JavaScript, JQuery, node.js, among others) in order to prototype tools and activities for these courses. We will also be running and participating user studies on these tools in order to study what would be best to implement into 6.MITx courses.

For eleven weeks from June 10th to August 23rd in the summer we will be learning web development and working on group projects creating visualizations and interactions for 6.MITx courses. The first two weeks of the project will be spent learning the specified web technologies in a hands-on bootcamp, the remaining time will be spent working on small teams on specific interaction projects for EECS courses. These will be suggested by ourselves or the supervisors. In addition, we will be testing and giving feedback on other groups' projects. We will be completing 2-3 projects during the summer. We will be working in 34-501, the 6.01 lab space, with some work being done at home.

Personal Role and Responsibilities:

As a student who has taken many of these classes, I will be helping to design and implement prototype activities that would best translate the experience that MIT students go through to an on-line format. In addition, I can add an eye of experience when participating in user studies. This feedback will be used to improve the other projects as well as my own. I will also gain significant experience in web technologies. At the end of the project I hope to have contributed to MITx in a significant manner, from

seeing a project I helped with implemented and used by thousands of eager students, to helping my fellow undergrads on this project do the same.

Goals:

This will be my first UROP experience, therefore I hope to gain an understanding of what a research project entails. I also would like an opportunity to apply a lot of the skills I have learned in the past semesters at MIT, where I have taken all the foundation level classes for course 6-2, and User Interface Design, 6.813. Since this UROP involves a lot of hands-on development experience, it gives me an opportunity to exercise these skills.

Finally, I am very interested in education, and sharing my knowledge with these classes as best as I can. I was a Lab Assistant this past semester for Computational Structures, 6.004, and I enjoyed the challenge that teaching is; trying to break down complex concepts to an explainable analogy and helping a student understand the subject. Making tools for an online course presents a different challenge, as it is not a personal experience with the student. I hope to learn and implement new ways of teaching and transferring knowledge, and giving the students taking the MITx course a way for them to learn and explore similar to an MIT student. I was privileged to have my parents who sacrificed a lot to move to a good school district, giving me a great education and access to a lot of resources, but I know a lot of students just as eager as I was who don't have those resources. This is another reason why I joined the MITx project, giving anyone with internet access a way to learn regardless of where they live or the state of their school. And it will help me translate a lot of the passion I have for science and engineering into a tangible format.