

# IMMERSIVE AND GAME-BASED LEARNING FACULTY CHALLENGE

## COMMUNITY COLLEGE OF AURORA

**Project Name:** Community College of Aurora Apprentice Project

**Project Abstract:** CCA is designing an immersive learning competition similar to the popular reality show, *The Apprentice*. Teams of approximately ten students across four departments (Film; Art and Design; Business, and Computer Science/Information Technology [IT]) will collaborate on real-life case studies for community organizations to launch a new business product over the course of the Spring 2013 semester—competing to win the title of 2013 Innovative Visionaries. The case study will be integrated into the courses' syllabi and tied to learning objectives. Each team will be responsible for creating a product prototype, marketing and financial plan, media plan and all IT components.

**Total Funding Awarded: \$99,704.00**

**Project Name:** Colorado Virtual Studio System

**Project Abstract:** The Colorado Virtual Studio System will transform the student experience in the creation of original content from an act of insular personal expression to an act of communication to a generalized audience through the incorporation of real world market conditions and considerations in the creative process. The Colorado Virtual Studio System will create a plug and play modular virtual economy adaptable to a variety of creative, technical, and entrepreneurial programs throughout the community college system. Students in such programs will be more engaged in their course work, and more successful in the job market on graduation.

**Total Funding Awarded: \$99,833.00**

**Project Name:** Going Beyond the Book: A Planning Project to Promote Immersive and Game-based Learning

**Project Abstract:** CCA is requesting a planning grant to guide us through improving what we are currently providing through our Center for Simulation, expand the use of immersive and game-based learning across the college through a vigorous professional development program, and share what we develop with colleagues around the state. The planning project will help our college take the necessary steps to develop faculty and increase their awareness of immersive learning resources, provides curriculum and simulation resources for immersive learning, and to coordinate faculty across disciplines to collaborate on projects.

**Total Funding Awarded: \$99,653.00**

**COMMUNITY COLLEGE OF AURORA**

**Project Name:** CSI: Aurora

**Project Abstract:** CSI: Aurora captures the popularity of forensic television shows and teaches the reality of forensic work through an immersive learning exercise involving a mock crime scene and mock criminal trial, with student participation from archaeology, forensic anthropology, criminal justice, paralegal, and science departments. Students in each department gain practice in specific methodologies as they related to real-world applications in a criminal case. For example, forensic anthropology students apply what they have learned about the human skeleton to identify a victim of a crime. The goal of this proposal is to expand on the current Spring 2012 crime scene lesson into five possible scenarios for upcoming semesters with more students, more departments, and more excitement.

**Total Funding Awarded:** \$74,541.00

**COMMUNITY COLLEGE OF DENVER**

**Project Name:** Linear Equations Battleship Animation/Distribution

**Project Abstract:** Linear Equations Battleship is a game developed from a collaboration among colleagues at the Community College of Denver. The game is currently played as a paper board game in an in-class setting. By developing Linear Equations Battleship into a digital animated game format, we will enable students to be engaged in an interactive, competitive learning experience as well as be able to take their learning outside of the classroom. The digital version of Linear Equations Battleship will be easily adaptable for Developmental Math classes and College Algebra, and will be made easily accessible for use by instructors and students at any college.

**Total Funding Awarded:** \$68,000.00

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**FRONT RANGE COMMUNITY COLLEGE**

**Project Name:** Games Based Learning MOOC

**Project Abstract:** What is a MOOC? A MOOC is a massive online open course. This type of course is designed for large scale learning and knowledge sharing between professionals. This proposal is requesting \$51,305 to develop four immersive and game-based learning MOOCs. These MOOCs will include online, synchronous as well as asynchronous sessions using a combination of Web 2.0 tools, commercial off the shelf games, and immersive environments to teach CCCS faculty, instructors, and staff how to implement immersive and games based learning.

**Total Funding Awarded: \$54,430.00**

**Project Name:** Project Outbreak

**Project Abstract:** Project Outbreak is an augmented reality (AR) simulation that uses an interactive narrative where the student groups are working as microbiology interns for CDC Investigator who has been called in to investigate a mysterious illness and must quickly track down patient zero before the epidemic threshold is reached. Student groups will extend their learning with mobile technologies and Internet based Web 2.0 and social media tools.

**Total Funding Awarded: \$57,960.00**

**Project Name:** Psychology Gaming Lab

**Project Abstract:** Psychology Lab Game proposes to develop a game for PSY101 students to compete against themselves and as a class while learning PSY101 content. The Game will consist of eight different activities including memory games, virtual brain dissection, and training a virtual rate. Upon completion, students will be elevated in status from the role of a distanced sports fan to owner of the team. Classes will compete with other classes for a spot in the super bowl at semester's end. This game will be free to students and can be modified for use in any class or discipline in the CCCS.

**Total Funding Awarded: \$100,000.00**

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**MORGAN COMMUNITY COLLEGE**

**Project Name:** Sim Spray Paint Gun Simulator – Morgan Community College Collision Repair Program

**Project Abstract:** The Auto Collision Repair program at Morgan Community College would like to purchase a SimSpray immersive virtual reality painting simulation unit. This unit is designed to assist in the teaching of spray painting and coating fundamentals. Using SimSpray decreases the expense of paint used to teach spray painting and delivers a “Green” ROI to the classroom and the environment. SimSpray allows students to practice painting before ever stepping into the paint booth and it simulates several different painting environments such as the paint booth and a spray shop.

**Total Funding Awarded: \$34,938.00**

**PIKES PEAK COMMUNITY COLLEGE**

**Project Name:** Gaming Literacy: An ENG 090 Class in a Video Game Format

**Project Abstract:** The proposed Pikes Peak Community College (PPCC) project will pilot the gamification of a hybrid developmental education writing course that uses an achievement-based assessment model (levels, badges, etc.). The pilot seeks to increase student learning, engagement, and retention through collaborative practice, peer-generated feedback, and student choice in coursework. A collaboration of PPCC’s Educational Services and Student Services Divisions, students in the course will write and design an Interactive Fiction game and engage in a Minecraft-based re-design of the Centennial campus from the viewpoint of students using services. Course findings will be shared through a Livebinder to facilitate system-wide course recreation.

**Total Funding Awarded: \$32,726.00**

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**PUEBLO COMMUNITY COLLEGE**

**Project Name:** Teaching Business with WoW

**Project Abstract:** This grant proposal seeks to utilize the commercial off-the-shelf game, World of Warcraft (WoW). WoW and its market economy as a real-time laboratory for business and economics faculty and students. The goal of this project is to increase student engagement, persistence, retention, and completion through game-based learning.

**Total Funding Awarded: \$60,506.00**

**Project Name:** Business Simulation Game for Introduction to Business

**Project Abstract:** The PCC project “Business Simulation for Introduction to Business Courses” brings gaming into the classroom as the business simulation game relates to each class session. Introducing simulation, the project involves starting and managing a business of the student’s choice embedding the simulation into our basic business course.

**Total Funding Awarded: \$30,677.00**

**RED ROCKS COMMUNITY COLLEGE**

**Project Name:** M-Apps 4 Math (Mobile Applications for Math)

**Project Abstract:** The Red Rocks Community College (RRCC) Math department will implement game-based learning in MAT 060: Pre-Algebra through a collaborative project with the RRCC Computer Science department. The goal of the project will be to assess the impact of game-based learning on student success in developmental math and identify the most effective game-based learning tools—custom or “off-the-shelf” gaming applications, while at the same time providing two CIS students with a valuable internship opportunity.

**Total Funding Awarded: \$73,476.00**

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**TRINIDAD STATE JUNIOR COLLEGE – Trinidad Campus**

**Project Name:** Diesel Fundamentals Competition

**Project Abstract:** The Diesel Fundamentals Competition area a collaborative effort that incorporates virtual simulation as well as real world applications to encourage students in technological development. Students compete on computer based virtual reality programs that teach fundamentals in Diesel Mechanics using an immersive simulation, game based platform. Students begin by using the self-paced tutorials on the virtual software. Students compete on performance, efficiency, strategy, and competency. Students are given points based off ability. Then, students compete on stand alone simulators using their hands and strategies to diagnose problems.

**Total Funding Awarded: \$99,676.00**

**Project Name:** Robot Technologies and Competition Program

**Project Abstract:** The Robot Technologies and Competition Program is an interactive program that uses immersive simulation and VEX robotic design systems to learn the fundamentals of robotics and compete in VEX robotics competitions around the state and nation. It also includes industrial applications with curriculum that uses game based and immersive simulation as teaching fundamentals. Other applications include creating games and competitions for robots from entry level game play (VEX) robots to industrial welding, assembly line, work envelopes, sensors, manipulators and end effectors, object detection, programming, and many other applications. Students will learn robotics from entry level to industrial applications.

**Total Funding Awarded: \$98,004.79**