

# **UNIVERSITY OF LOUISIANA AT LAFAYETTE**

**STEP Committee**

**Technology Fee Application**

**Equipment for the Video Game  
Design and Development (VGDD) Lab**

Title

**Dr. Arun K. Kulshreshth and  
Dr. Ashok Kumar**

Name of Submitters

**Computer Science, School of  
Computing and informatics**

Organization



# Proposal Description

## A) Purpose of grant and impact to student body as a whole

Becoming a computer scientist and working software developer requires computer science majors to work toward developing their knowledge, skills and experience. The purpose of this grant is to assist these students in their development by enhancing the Video Game Design and Development (VGDD) laboratories in the School of Computing and Informatics. This includes purchasing and setting up a computer (which will replace the old computer) connected to two projectors (to replace current aging projectors) and 30 wireless game controllers. The computer is used for the classes held in the VGDD lab and it requires two projectors, one to display the code and the other to display the game being developed. Purchasing and installing the 2 projectors will provide the screen resolution and luminosity needed for lectures, demonstrations of student work, and testing of applications that require large area projections. Purchasing and installing the 30 wireless game controllers will impact all the students using the VGDD laboratory by providing them with the experience to design applications controlled by modern wireless game controller hardware. These wireless controllers will replace the outdated wired Logitech game controllers currently we have in the lab. The department has about 225 students using this VGDD lab. In addition, this lab also serves as a major recruiting hub on preview days for high school students.

The equipment that will be purchased through the STEP funding will support and boost undergraduate and graduate work in the area of video game design and will be utilized for interdisciplinary collaborations with other departments and schools within UL Lafayette.

### Impact to the student body

Based on the provided justification, we expect the following impacts on the student body:

- Improving computer science student's abilities and expertise in the area of video game design, and computer graphics.
- Enabling the Computer Science program to enrich current concentrations (e.g. video game) by allowing new possible projects (utilizing this new equipment) for students. This will attract more students to the Computer Science and will increase the number of enrollments in the program.
- Enabling students in other departments and schools, such as department of engineering, math and physics to gain access to computing resources.

## B) Projected lifetime of enhancement

We believe that the computer purchased can work perfectly for at least 5 years. After that period, we can possibly upgrade the components in the computer and make it usable for another 3-5 years (total 8 to 10 years). The projectors purchased would last for at least 5-10 years provided we can replace lamps in the projector every 3-4 years. The wireless game controllers would last for at least 5-years.

## **C) Person(s) responsible for**

### **a. Implementation**

Implementation will be carried out with the help of the Computer Science program system administrator (Mr. Frank Ducrest), Dr. Arun K. Kulshreshth, Dr. Ashok Kumar, and their undergraduate and graduate students.

### **b. Installation**

Installation will be carried out with the help of the Computer Science program system administrator (Mr. Frank Ducrest), Dr. Arun K. Kulshreshth, Dr. Ashok Kumar, and their undergraduate and graduate students.

### **c. Maintenance**

Maintenance will be carried out with the help of the Computer Science program system administrator (Mr. Frank Ducrest), Dr. Arun K. Kulshreshth, Dr. Ashok Kumar, and their undergraduate and graduate students.

### **d. Operation**

Operation will be carried out with the help of the Computer Science program system administrator (Mr. Frank Ducrest), Dr. Arun K. Kulshreshth, Dr. Ashok Kumar, and their research lab students which includes both undergraduate as well as graduate students.

### **e. Training (with qualifications)**

Dr. Arun K. Kulshreshth, Dr. Ashok Kumar, and their research team members that will include undergraduate and graduate students. Also, a general training document will be prepared to teach others on how to access and work with the system.

## **D) Grant proposal and justification**

Our intention in requesting funding to purchase a computer and two projectors it is to equip VGDD laboratory with latest technology by replacing outdated hardware. This equipment would be utilized by undergraduate and graduate students, both as part of projects and in working with researchers in the School of Computing and Informatics to gain experience with applications in several broad areas including human-computer interaction, virtual reality and computer graphics. If funded, this grant request will allow students in the School of Computing and Informatics to gain valuable experience directly related to success after graduation.

## Budget Proposal

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<b>1.</b>	<b>Equipment</b>	<b>\$9,500</b>	
	One powerful computer with high end CPU and Graphics		Total: \$2,500.00
	Two Projectors for the game lab		Total: \$5,000.00
	30 Wireless Xbox game controllers for the game lab		Total: \$2,000.00
<b>2.</b>	<b>Software</b>	<b>\$0.00</b>	
<b>3.</b>	<b>Supplies</b>	<b>\$0.00</b>	
<b>4.</b>	<b>Maintenance</b>	<b>\$0.00</b>	
<b>5.</b>	<b>Personnel</b>	<b>\$0.00</b>	
<b>6.</b>	<b>Other</b>	<b>\$0.00</b>	
<b>TOTAL:</b>		<b>\$9,500</b>	

## **Previously funded STEP projects:**

### **\$35,000 Board of Regents Enhancement Program Grant (LEQSF(2012-2013)-ENH-TR-27)**

**(Spring 2012)** Dr. James Etheredge and **Dr. Ashok Kumar**. Replacement and upgrades to Video Game Design and Development lab and general software development lab. 13 workstations were purchased and used to replace approximately half of the workstations in the Video Game Design and Development lab.

### **\$27,100 STEP Grant (2016-2017) (Fall 2016)** Dr. Mohsen Amini Salehi and **Dr. Ashok Kumar**.

Equipment for High Performance Cloud Computing (HPCC) Lab. A 32-node cluster and 40 raspberry Pis were purchased with support from this STEP grant.