CSU STEM Collaboratives Project
HSI WEB PORTAL

Tatevik Sardaryan, Felix Villa, Paulo Osuna, Edwin Salazar, Sergio Gonzales
California State University of Northridge

U.S. Department of Education
HSI

Abstract

STEM-Hispanic Serving Institution (HSI) grants are funded by the United States Department of Education under Title III STEM/Part F-HSI. These grants fund various Science, Technology, Engineering and Math projects in colleges and universities throughout the country.

A problem faced by grant receiving institutions is that there has never been ways for grant directors to communicate with each other in a centralized way. In order for ideas to be shared amongst grantees, a communication channel between them was needed.
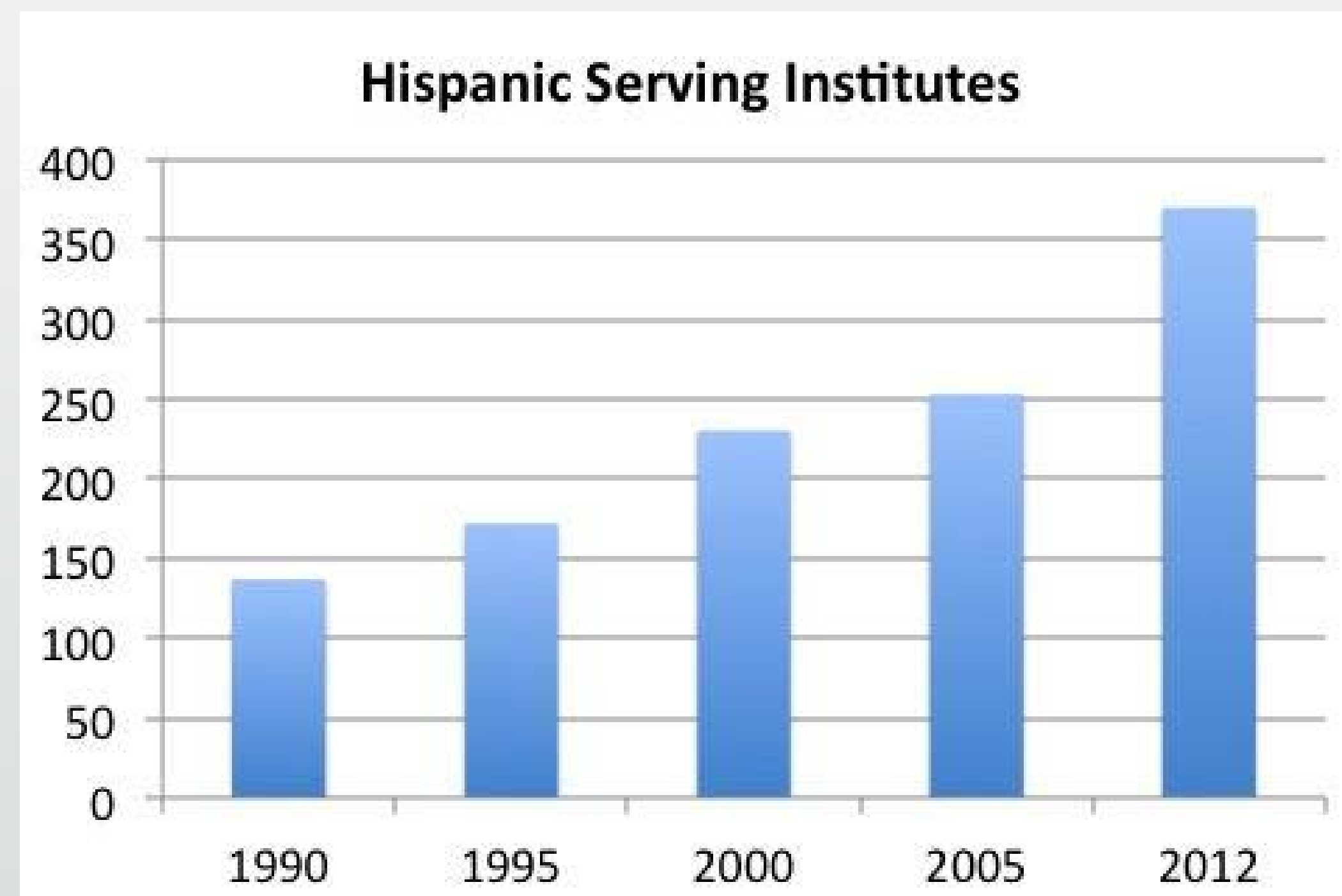
Thus, the creation of a system that categorized STEM grantee objectives into type of projects, successful strategies, and assessed versions of successes and failures was created to provide valuable information for all STEM grantees and minimize redundancies collectively within the programs. Successful objectives and strategies can now also be collected as a group to assess their overall STEM program productivity.

In short, the purpose of the HSI-STEM web portal is to serve as a communication link between STEM-HSI grantees. It allows grantees and directors to view and share grant objectives and goals between them, thus, stimulating the creation of new exciting STEM projects.

Introduction

HSI-STEM Grantee Interaction

- Creates a communication link between HSI-STEM PIs that allows them to share their program objectives and results.
- Collection of data will stimulate the creation of new exciting STEM projects.
- The number of HSIs is rapidly growing, from 137 institutions in 1990 to 172 in 1995, to 230 in 2000, to 253 in 2005, and 370 in 2012.
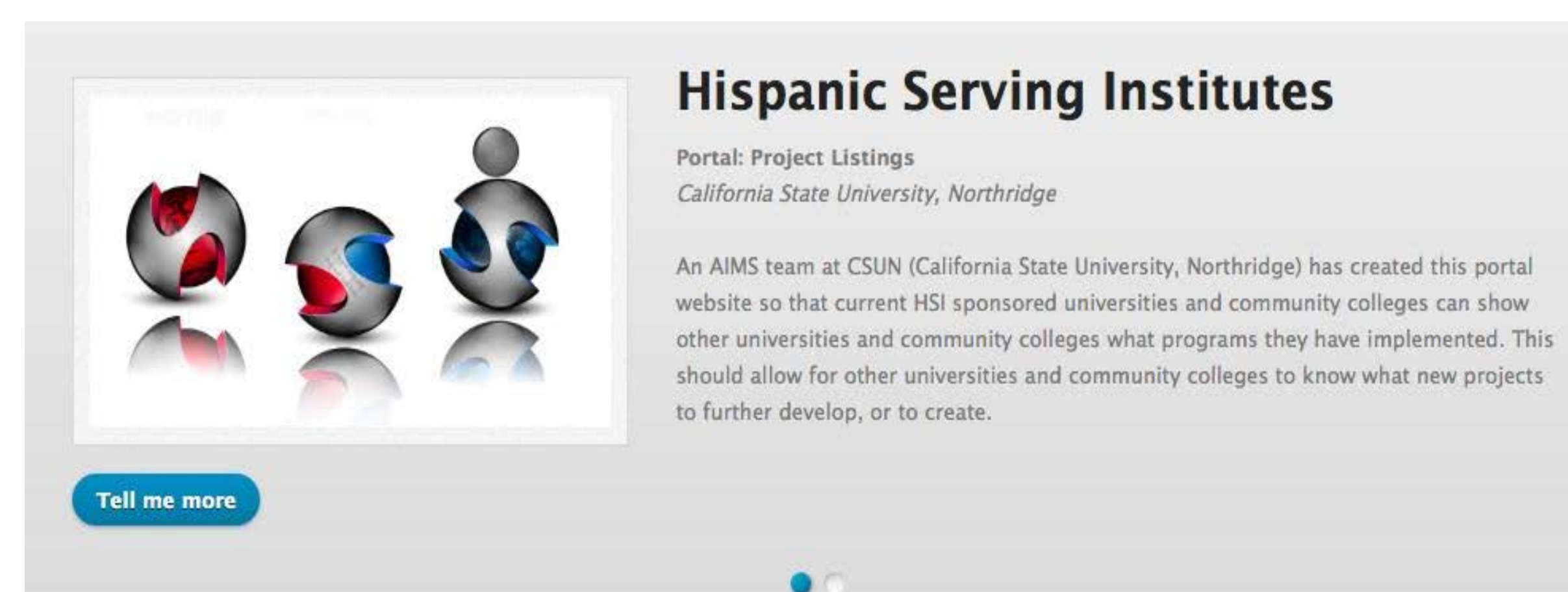
Hispanic Serving Institutes

Group Motivation

Our desire to engage in a project that could allow for the sharing of information between STEM supporting colleges and universities.

Hispanic Higher Education And HSIs Fact Sheet [Infographic]
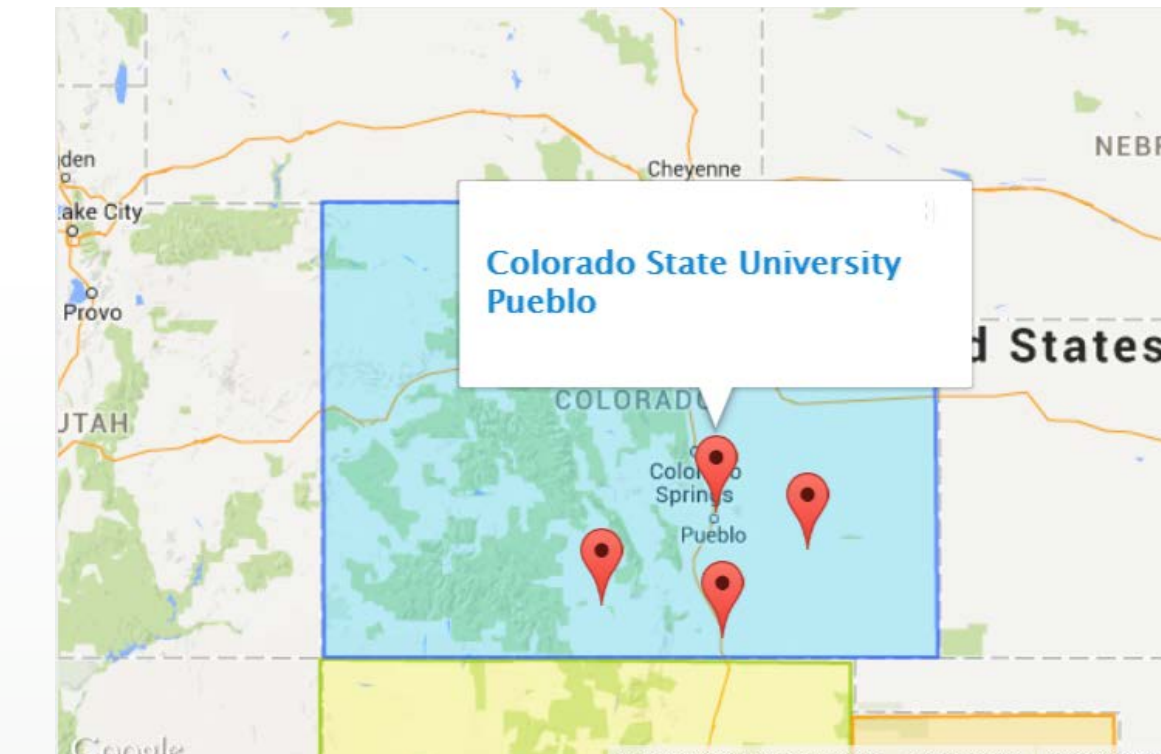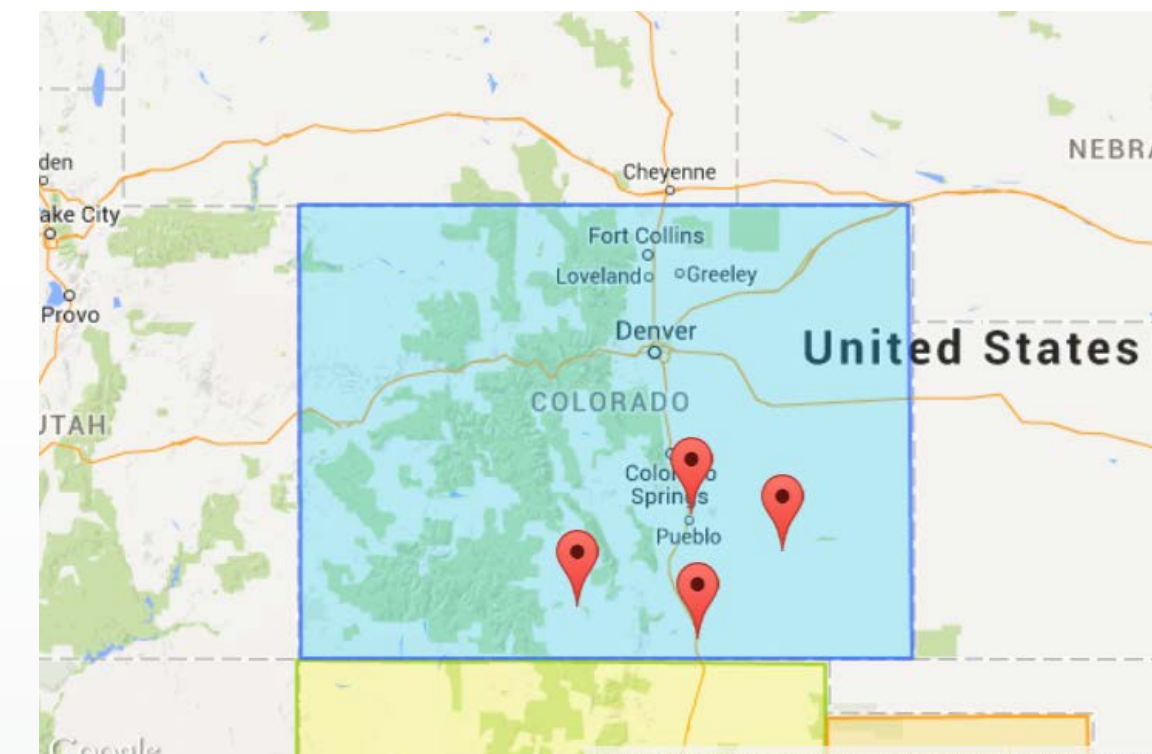
Results

The HSI Web Portal acts a virtual library where Principal Investigators may share their STEM projects. The Portal also provides a real-time chat communication link between PIs. Thus, the HSI Web Portal acts as a one-stop solution for gathering and exchanging information about the HSI grantees and their projects, as well as a form of communication.

Additionally, there is a geographic navigation map where PIs can graphically browse between school projects, and there is also a search box option that allows for project searches by keywords or other identifying data.

About Drupal CMS

Drupal is an open source content management platform powering millions of websites and applications. It's built, used, and supported by an active and diverse community of people around the world.

Discussion

Features of the Web Portal

The updated version of the STEM-HSI Web Portal includes a full functioning chat module that will allow logged in users to have a conversation in a private one-on-one room, or with multiple users logged into a public chat room. The chat function makes a copy, and retains the conversation for future use. It also has an improved integrated map that pinpoints the school locations for those schools who input their data, and serves as a navigational tool for locating schools by region.

A section of the website that shows grantees how to use the HSI portal website has been implemented as well. This section provides grantees with a menu containing categorized information about the site's overview, navigation, and its features. Help videos are also available here. Bug reports and troubleshooting are handled via an e-mail form that directs to the current website administrator.

Possible Optimizations

At present, PIs are not able to engage in group conversations outside of the public chatroom. This is a feature that may bring more collective functionality between institutions. Other features that may add productivity to the site are file upload/download capabilities (PDFs) for PIs.

Technical Aspects

The web portal's content is managed by Drupal, and is currently hosted at CSUN. The web address is http://www.ecs.csun.edu/~hsi. The navigation map was created using the Google Maps JavaScript API Version 3.

Conclusion

- HSI Web Portal works well with most web browsers.
- The Portal is easy to use, there is only a small learning curve
- The posting of STEM projects is done through the use of a template, however, it is flexible enough that it allows for PIs to upload graphics and other data as well
- Overall, the Portal is a success as it provides the basic functionality of the creation of user accounts, the uploading of STEM projects, the sharing of the projects, cataloging them, and providing communication avenues between users
- Future Implementations:
    a. Organize Chat Groups
    b. Allow projects to be downloaded
- The team met their desire to engage in a project where several skill-levels were necessary to succeed.
- Each individual member of the team practiced cooperation and learned valuable technical skills. As a result, each member was able to culminate their independent research through application, leading to the creation of this portal.

Participants

Tatevik Sardaryan
Felix Villa
Paulo Osuna
Edwin Salazar
Sergio Gonzales

Limitations

The following are a list of browsers known to work and support all of the HSI-STEM Portal website features:

- Internet Explorer 8.x and later
- Internet Explorer 9.x and later
- Firefox 5.x and later
- Opera 12 and later
- Safari 5.x and later
- Google Chrome

Contact Information

Gloria Melara
Gloria.melara@csun.edu