



**SDSU**  
presents  
a thesis defense for  
Master of Science  
degree in  
Computer Science

Tuesday,  
May 13, 2014  
  
12:00pm  
GMCS 405

# Deepika Srinath

## *Assorted GIS Tools*

### Abstract

---

1. A tool was created to merge two polyline shapefiles, or two polygon shapefiles, under suitable assumptions, e.g. similar dbf files. The two shapefiles must be of the same shape type, i.e., both point files, or both polyline files, or both polygon files. In addition it is best if they have 'compatible' data, i.e., the same field names and the same field types in their .dbf files. A useful example is when the shapefiles have been created with drawing tools. In the event that considerable time was spent drawing the shapes very carefully, merging will save considerable time and effort over re-drawing. And the dbf files will usually be compatible.

2. A tool was created which displays the hex dump versions of .shp and .shx files submitted by a keyboard user. Then the tool interprets those hex dumps according to their ESRI specified formats. This is primarily an educational tool, but can be used as well by GIS professionals, for example to examine shapefiles that are not performing correctly, and might have small but fatal corruptions.

3. A third tool helps create shapefiles, when using Map Objects, when one is creating a layer from a csv file with a large number of non-locational attributes.

### Thesis Committee

---

Carl Eckberg, Thesis Chair, Department of Computer Science  
Leland Beck, Department of Computer Science  
Carmelo Interlando, Department of Mathematics & Statistics