



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

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*Time line help package for map objects*

## Abstract

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The timeline tool is an interactive tool that helps create a product where end-users can view various series of events that happened over time. It is a visual representation of the events that took place over time on the space. It is a simple tool that takes input from the users to represent the data on the map in timely manner. This tool is designed keeping in mind a vast set of users like from regular users to teacher, students, computer science students, professors etc. This tool can be mainly used for school projects by the teachers to help the students know more about history or any events that took place over time. Important inventions can be displayed in space vs time on the map like displaying the "History of pi" which is greatly useful for mathematics students.

This tool is very interactive in the sense that the user is asked to enter the start and end year, also interval between the years for the period he wants to see the time line for. Depending on the data entered by the user, the slider bar on the map is represented with start and end years and the user given interval is used to mark the interval between the years on the slider bar. Users have control over the timeline they want to see and also the distance or gap between the years. Users also enter data for each event point like latitude, longitude, description and further data related to the event point. Users also upload pictures related to the event, wiki links and video links for the event points. Users can see a clear representation of the points on the map as the time line slider bar is moved. For each and every point user can click on the point to know more about the event point. Information, description, picture, wiki and video links can be seen for the point by clicking it.

A lot of map objects toolbars and custom tool bars have been added to make the tool more interactive and give the users a choice of playing around or getting more knowledge from the tool. One of the interesting addition to this tool is that user can enter data either by going point to point or by directly uploading the csv file. The second option is given keeping in mind computer science students or any user who has good computer knowledge and doesn't want to take time by entering data for each and every point. Hence this tool is flexible and useful for wide range of users. There is also a help menu which explains the users on how to enter data at each and every step and how to use the tool. This tool is based on Java and Map Objects Java Edition 2. IDE Eclipse has been used to help write code.

## Thesis Committee

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Carl Eckberg, Thesis Chair, Department of Computer Science  
William Root, Department of Computer Science  
Gary Girty, Department of Geology