

## **MODELING THE ANCIENT STŪPA IN DIGITAL TRASING**

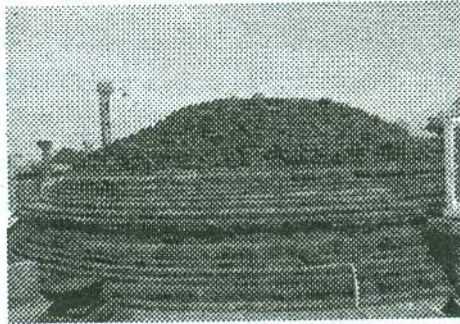
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### **Introduction**

The Stūpa is an important monument in any Buddhist temple. Therefore not only in modern temples but also ancient Buddhist temples have Stūpas. But today some ancient Stūpas are collapsed and cannot be seen as the time that they have been firstly built.

Sri Lankan Stūpa architecture has different architectural and engineering characteristics from the other Stūpas in the world. Therefore in Sri Lanka Stūpa has own identity. Also we can identify Stūpas in Sri Lanka existed prior to the introduction of Buddhism. A good example is "Girihanduseya" in Trincomalee. But many ancient Stūpas were destroyed by foreign invaders.



**Fig.01 Girihanduseya**

Information Technology plays a huge role in modern archaeology. Therefore computer modelling can be used to simulate ancient Stūpas as they existed in the past. The user can walk through to the past using such technology. By using presently existing measurements of ruins, it can be generated precise model using modelling methods.

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## Method

At first we should take measurements of existing ruins. It can be used laser measuring for precise measurements. Also it should take geo positioning coordinates (GPS) that can be used in the model .Afterward we have to feed all data into software that can develop such archaeological model.

Google Sketch up is such software that can be used to develop such model. There are many advantages to use such software. First thing is, it is freely available. Also the software has very user friendly Graphical User Interface (GUI) that anyone can understand. In addition to that, Google Sketch up has good documentation also.

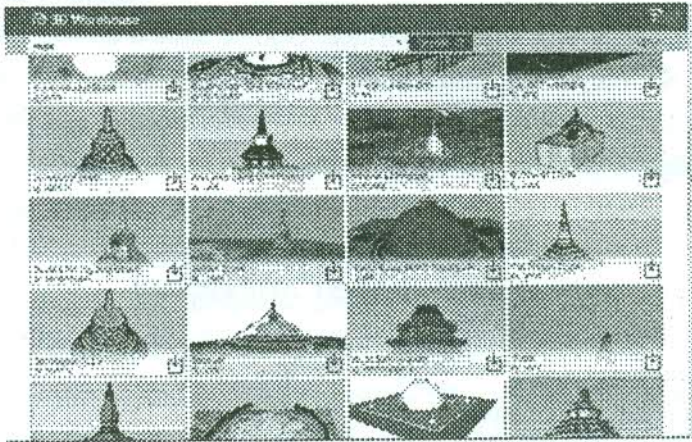


Fig2. Sketch up warehouse

At first we have to develop the basement. There are rectangle & push/pull tools for that development. However we have to consider about earlier measurements of Stūpa & other ruins. We can feed GPS data & then develop the Stūpa on basement. Also we can see the actual face of the Stūpa. Later on we can add colours, trees & monks ...etc. as we wish.

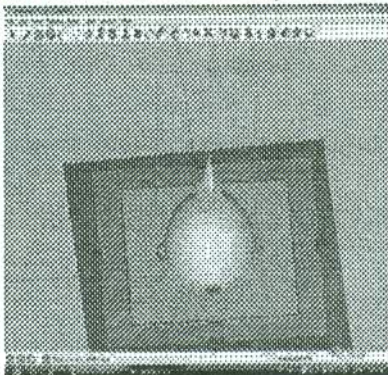


Fig03. Modeling Abayagiriya

Since this is a 3D model, we can navigate through the model. Therefore viewer may have feeling that he is walking through the past.

Therefore using appropriate software & feeding correct data into that software we can develop a good model of ruined Stūpa & can get a good idea that how it existed in the past. This is a good method of exhibiting the past glory of Sri Lanka. Also we can use this technology to popular Archaeology among young people specially school children.

### **Conclusion**

Sketch up is a 3D modelling program developed by Google Inc. So, sketch up can be used to model ancient Stūpa as it was existed in the past. It is a simple program with simple interface. Google sketch up has many inbuilt models & plug-ins. Also it has Ruby extension that supports for developments. In this research it is modelled Abyagiriya Stūpa in Anuradhapura with sketch up & anyone can see how it was existed in the past. This is good example of modern computer based modelling.

**Keywords:** modelling, Sketch up, Stūpa, Anuradhapura

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