

## CIIRA: Semantic Based Image Searching Utilizing Virtual Humans

David Harris, Carl Arrington, Dr. Dale-Marie Wilson  
Jays\_423@msn.com



David Harris:  
Interning at  
UNCC and  
studying  
Computer  
Science at  
Howard  
University

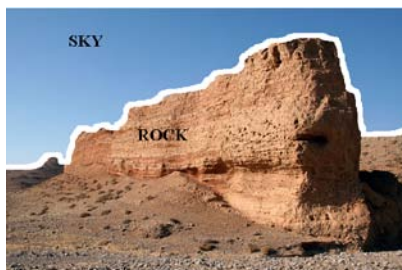
### Introduction

Recently there has been a rapid increase in the amount of digital images as a result of the widespread use of digital cameras. Now, for many of the digital images you see online there is annotation and descriptive data to go along with them, which allows for easier searching and organization. But for un-annotated images, there is no obvious go to method for searching through them. That however is where CIIRA comes in

### Background

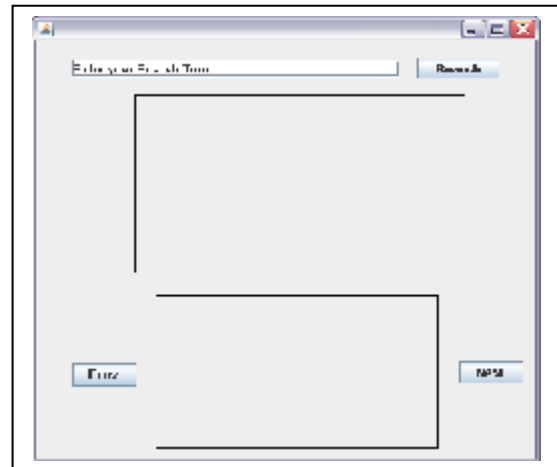
There is already a vast field of work on the study of virtual humans and the efficiency increase they bring. Such previous studies like Dr. Chestr and REA have had a great impact on how people use and view virtual humans.

For the second facet of our project, semantic image searching, we looked to people who had studied semantic searches and identified ways to sort pictures by their salient components



### Research

- Creating website template for Ciira image search.



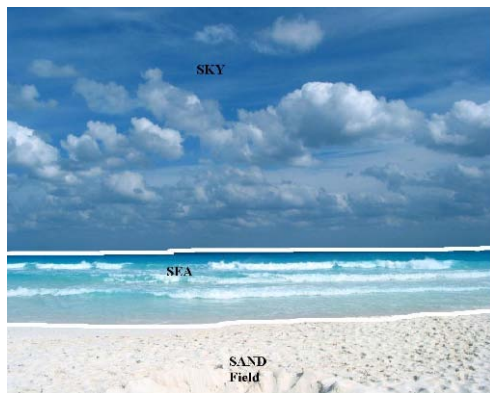
- Help design and animate CIIRA virtual human.



- Assist in applying the semantic image search database to the CIIRA applet

## Impact

- Semantic based Searching will greatly increase the ease through which non annotated images can be recovered and organized.



An example of image annotation in action as semantic concepts are attached to the pictures salient objects

- Virtual humans will allow for more efficient image searching.
  - As a result of the ease in which information can be passed through conversation
  - The general accessibility that natural conversation will provide to the user

## Conclusions

- After this project I realized how far virtual human's have come in their ability to converse and exchange relevant information with other Humans. I also realize that there is still much room for improvement in this process. Furthermore I feel that the concept of semantic based searching will greatly assist the process if image organizing and viewing in the future.

## Future work

- Working on increasing the virtual human's ability to respond and interact with the user.
- Expanding the word bank of the semantic searching algorithm.
- User testing the system in order to optimize it's efficiency