Virtual Human Appearance and Animation

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Introduction

As we begin this project our idea was to create a character (agent) with which user will be able to interact with. The main idea was to make it friendly, visibly human like and above all interactive so that users will be able to get a response as they spoke with they spoke to it.
The format of these two pages is similar to that of a poster, not a published paper. We'll use it to generate a booklet that summarizes the REU accomplishments this year.

Background

Research regarding virtual agents has been done before, agents are able to say a few words, interact with users thru keyboards, and also give information that is already set on a file just at certain time with out pressing any buttons but working only thru set timers. However, must of those agents are not interactive in the sense that most of their information is limited to just a few words and those agents do not run on html and java-script platforms.

As, we begin investigating, we as a group realized that an agent with lots of information about faculty was need in our school. We also realized that we wanted it to be interactive so that the user could ask for specific questions and also have an extensive database in which users will be able to get plenty of information about their specific question. . We later realized that these questions could not be random, they will have to be related to a subject, and as mentioned before, we chose faculty, including phone numbers, email, office hours and hobbies.

Research

Method 1:
- Create a virtual human
 - change virtual appearance
 This will be accomplished by using Haptek

Method 2:
-create animations
 -write script code to support animations
   These were accomplished by using
   Haptek, java script and HTML

Method 3:
    -write text to speech content, so that the
     animation will execute at proper times.

 -work with audio files to have
     mouth to audio movement match
     and execute at proper times.

     These was accomplished by using
     Haphoneme Software.

Impact

- **Result 1**
    Agent was created by using Haptek Software.

- **Result 2**
    Animations were created using Figure-maker.

- **Result 3**
    By using Haphoneme mouth movement and sound were synchronized giving the agent a more realistic look.

Complete Result:

Picture above is the complete result of the combination of all applications

Conclusions

Skills acquired thru the program:

- Java-script
- SAPI (text to speech software)
- Management of time to meet deadlines
- HTML
- Haptek
- Haphoneme
- Design and implementation of programs.

Future Work

For the fall semester, I am planning to work on my senior research project. I will also be part of a program called Stars alliance, which gives the opportunity for minorities and students with no research background become involved in programs.