Can You Here Me Now?

New Mexico
Supercomputing Challenge
Final Report
March 31, 2010

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Executive Summary

The world has come a long way since the first type of communication, starting with Phoenicians developing an alphabet all the way back in 3500 B.C. and today we have communication all across the world at light speed. Looking back there have been wideranges of communication we have gone from Morse code to postal service. We even used the Pony Express as a source of communication. The history of cell phones is basically based on radio technology which was developed in the 1940's. From the 1940's on cell phones only got better and more complex. The very beginning of cell phones can be traced to the innovation in taxi cabs, police cars, and other service vehicles, where two way radios were used to communicate with one another or with a central base. Early cell phone communication could even be traced back to individuals with special radios that can patch into a phone line via live operator to make a phone call. The first official mobile phone was used in Sweden by the Swedish police in 1946. The technology was connected to the telephones network and was distinctive of two way radio technology. This phone was not very practical; it was only able to make six phone calls before the car's battery was drained. The technology of the modern cell phone started with the creation of hexagonal cells for mobile phones by D.H. Ring from Bell Labs in 1947, later on another engineer from Bell Labs conceived of cell towers that would transmit and receive signals in three directions instead of normal bi directional antennas. Although some technologies have been developed, electronics and other technologies would take decades to mature and to be developed. An example of this would be the electronics that were used in the first cell phones were first developed in the 1960's. By 1967, the mobile

phones technology was available. During this time the user had to stay within one cell area. If they didn’t stay within this area they would lose reception.

1. Introduction:

1.1 Problem Statement

Have you ever wondered why cell service is so patchy? The main reason for this is because a lot of areas having only antennas instead of the more powerful towers. Bad cell phone coverage has become a problem through out Catron county and other surrounding areas. Many critical conditions that follow this problem could be traveling alone and getting stranded or lost and having no contact what so ever.

1.2 Purpose

The purpose of our project is to solve cellular service problems. In Quemado, New Mexico we recently got an antenna for our local area. The service isn't very good because it is an antenna and not a tower. Verizon wireless and other networks are suppose to be updating from a 3G network to a 4G network. This change in the network will hopefully give a better and longer signal.

1.3 Significance

The significance if this project is to make better service all over not just in our community. We think this would be important for all kinds of emergencies. Some examples of these emergencies would be getting stranded in the wilderness, car accidents, a fire, getting stuck in the mud, and getting lost. I believe that if you can have radio signal such as Sirius everywhere you go then you should be able to have cell phone signal.

1.4 Background

Communication has always been a huge part in the world. The first type of communication would be the code talkers. From there we went to mail, radio, walk-y talkies, telegrams, type writers, computers, house phones, and cell phones. Cell phones are a good source of communication except for the fact that service can be very limited in some places and there can be no service at all. If we fixed this problem then there wouldn't be as many stranded or loss people. The reason this would help would be because if people did get lost hiking or even hunting they could use their cell phones to contact help. Where I live in the mountains there is no service what so ever and people have gotten lost and not been found for days.

2. Description

The project is to figure out a way to make service better or to be able to have service everywhere so that this could be used for all emergencies. We think that antennas and towers are the main factor to this. All of these factors could help in some way. To make service better we think that antennas could make it stronger if there is the right tower.

2.1 Scope

This project goes semi deep into description. We go over all types of communication. We also talk about the way that towers and antennas work. We talked with Verizon workers on the type of communications. We also talked about

international services. We found out there are many different types of towers and antennas.

2.2 Materials

The materials that we needed to accomplish this project were:

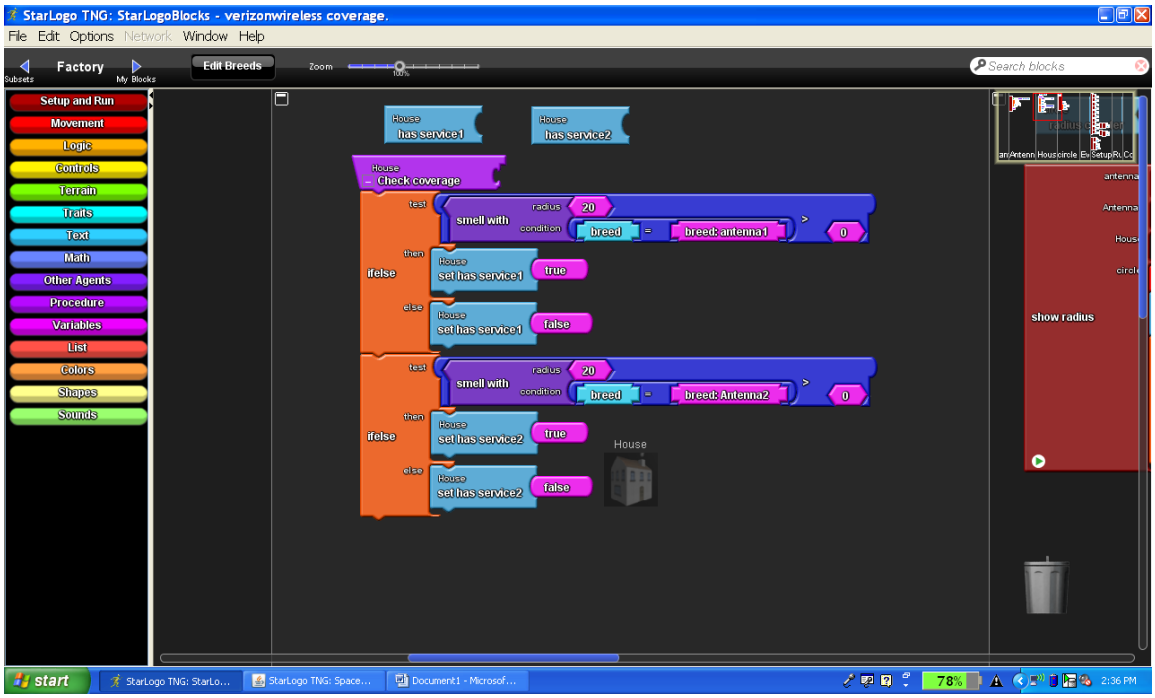
1. A computer or laptop
2. Star logo
3. Internet
4. Microsoft Word
5. Microsoft PowerPoint
6. A record book.

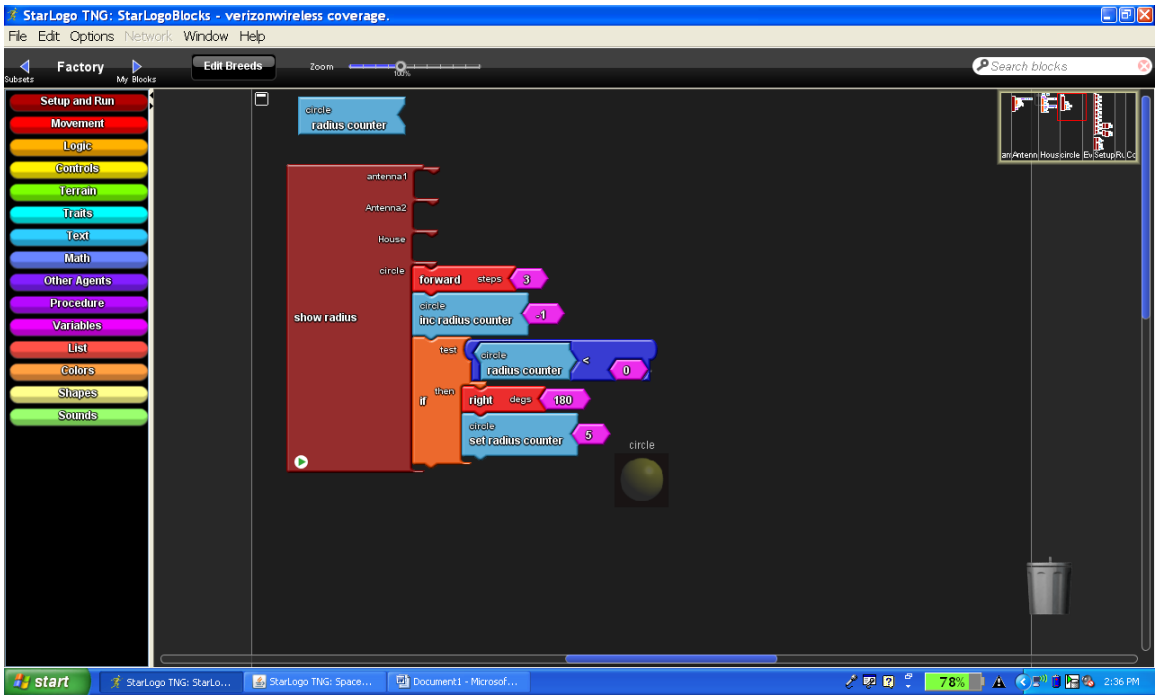
These are the materials that were needed for this project. Without these materials this project would have been impossible to complete.

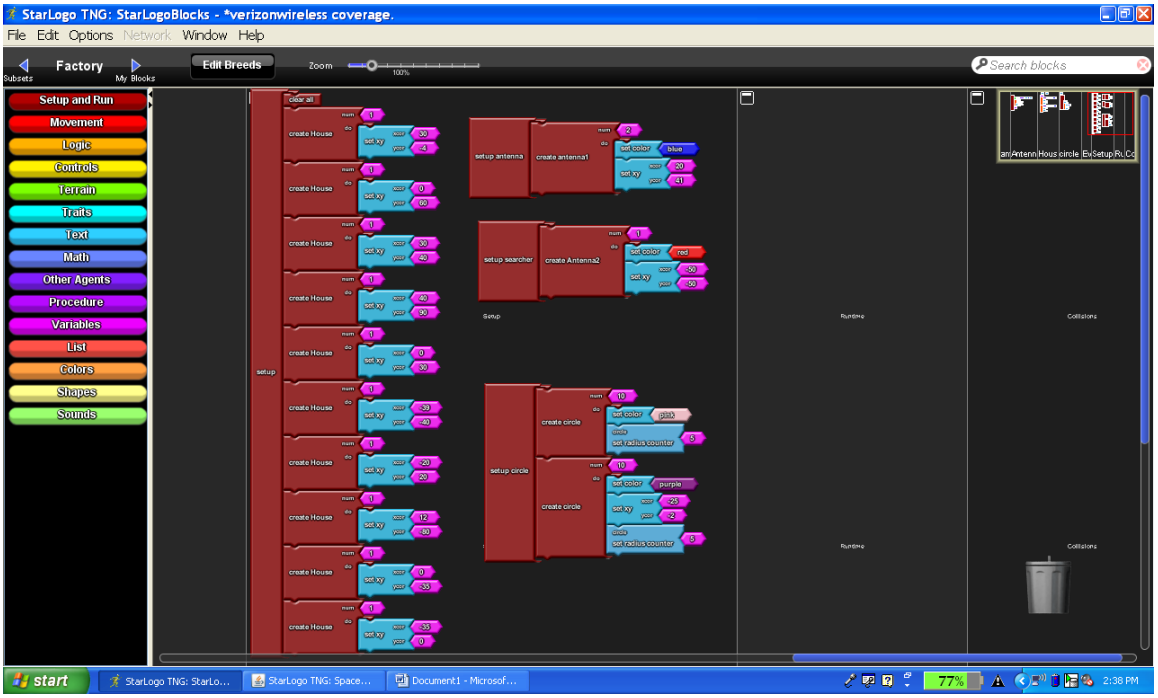
2.3 Methods

The first thing that you are going to need in order to accomplish this problem would be a laptop or phone. You will need one of these two objects because you will need to be able to gain contact will that cell phone service or company. Once you have all your research gathered you will need to use word document to type up your paper and all the information needed. Next, you will need to have some type of game design program such as star logo. You will use the game program to make the simulation for your project. You will also need your references to refer to in your report. When everything is finished, you might also want to state all the data and research that was used throughout your simulation.

2.4 Computational Model



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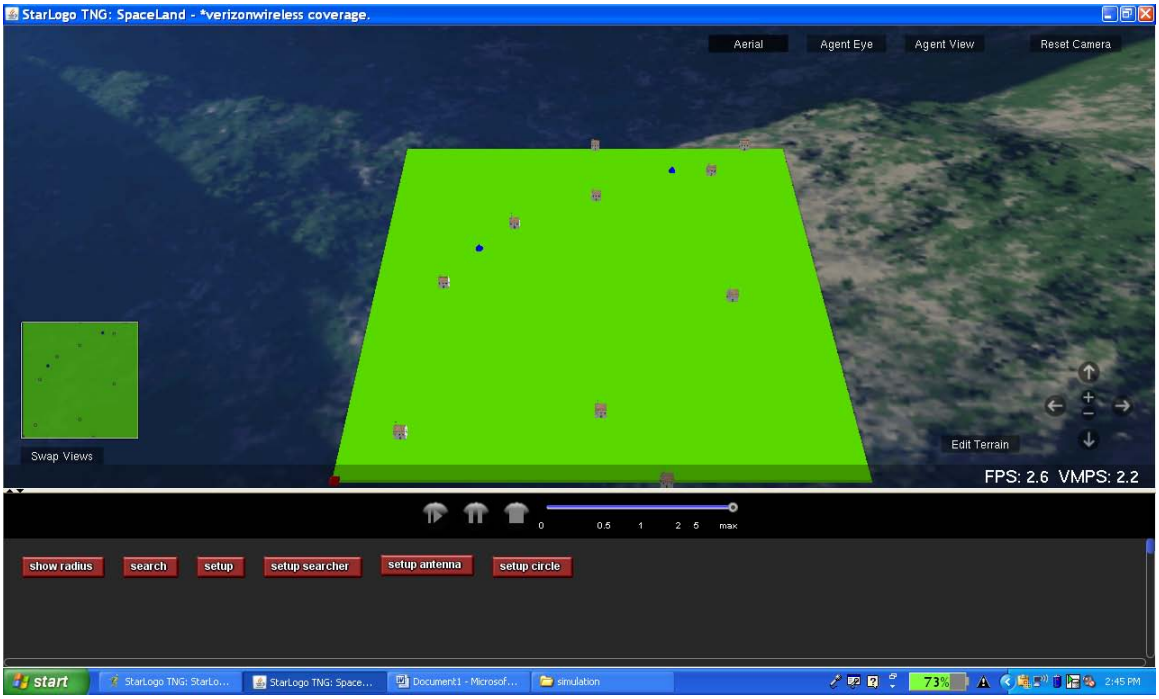
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