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Project Milestone 0: Project Pitch
CSCI 3002 - 106
STARFare Technology

<u>STARFARE VOICE CONTROLLED SHIP SYSTEM</u>

As we entered our group project, the topics were endless. However, as we previously had worked as team members during a recitation project and enjoyed the idea we had, we decided to create an interface based loosely on technology from the TV series *Star Trek*. We previously had created a voice activated navigation device and then had the idea to extend that voice interface idea with something else we both enjoy, space travel. The concept for this project is to create a voice command interface that can be used in space shuttle flight decks which allows the crew to interact with several different flight and operations systems at once. We call it STARFare.

STARFare specializes in space exploration in the 25th century. STARFare represents Earth, a planet of Homo Sapiens, and leads other planets throughout the galaxy in peaceful contact, negotiations and treaties. Their technology is the most innovative and competitive space faring computing system, making it one that truly embodies where the future of technology will take us. This new line of space technology, named and modeled after STARFare and the bridge crew's needs, is the most easy-to-use interactive computer system of today.

While undertaking space flight, a crew of team members must interact with several different systems at once, physically manipulating the interfaces. While this may not seem to have any major drawbacks, having the crew move back and forth between these systems consumes time and can be especially difficult in zero gravity environments. In emergency and high pressure situations, any time saved can be of vital importance. By allowing the crew to interact with their systems through voice command, it allows them to eliminate the time waste of physical movement and allows them to carry out their operations with higher frequency in less time. There is no current project like this in research as far as we know, but with a shared love of *Star Trek*, the idea of a command interface which resembled the computer system from the show struck us as something that was both intriguing and actually useful in a real-life scenario. STARFare Technology aims to consolidate all systems aboard a modern 25th century spaceship's flight control deck. The pilot and flight crew will have voice command authorization to ship systems. Passengers can also use the system, with limited access to functions based on boarding status and authorization.

The key stakeholders for this project are members of space flight crews, as this kind of interface lends itself to situations where physical interaction and movement are limited. However, this project can also be adapted to work with other crews who work with complex navigational systems such as freight shipping crews and airplane pilots. The primary purpose is decidedly geared towards spaceship crews as it would have the greatest benefit of action. The

crews would primarily be those belonging to national space agencies such as Nasa and ESA, however private entities such as SpaceX would benefit from this interface as well.

      For us to consider this project to be a success, several requirements would need to be met. First of all, the use of the interface must actually provide a way for the crews to interact with their systems in a manner that is faster than physically interacting with them. Next, the interface must be able to interpret the voice commands with near perfect accuracy as there is no room for error when flying in space. The way in which the crew commands the interface must be able to have many successive commands be executed in a short amount of time, removing the need for the crew member to repeat themselves. This is especially vital in high speed situations. The technology for this computer system must be able to clearly communicate with users, and flawlessly input and execute commands for users. It must also be able to guarantee security of authorization among passengers and limit certain controls to the bridge crew.