Music-In-Control

Final Presentation

Members:
Héctor Díaz
Jonathan Cameron
Luis Velázquez
Jonathan Luna
Outline

- Background
- System Overview
- Objectives
- System Design
- Results
- Conclusion
- Questions
Background

- The use of personal computer as an integrated home entertainment system.
- People are limited in the way they interact with the computer.
- Portability and remote devices are becoming part of our lifestyle.
System Overview

**Music-In-Control**

- LCD Display
- Bluetooth Remote Communication
- Microcontroller
- Touch Screen
- Computer with Media Player
- Software Application
Objectives

- Develop a system where the personal computer is the main component to create an audio entertainment environment.
- Develop a portable remote interface to use Media Players without having to get near the computer.
- Display the Music Library and Audio Options in a LCD display.
Objectives

- Develop a software application that works as an interface between the portable remote interface and the Media Players.
- Use a Touch Screen configuration to handle user input.
- Establish the communication using Bluetooth technology.
System Architecture

User

<<Hardware>>
Portable Remote Interface

Protocol = Bluetooth 2.0
RFCOMM Profile

Music-In-Control
Software Application

<<External Software>>
Windows Media Player

<<External Software>>
iTunes
Implementation Approach

- LCD Programming
- Touch Screen Programming
- Bluetooth Communication
- Develop Firmware
- Testing
- Prototype Mounting
Software Design

Graphical User Interface

Remote Interface

Core

Media Players Interface

iTunes or WMP

Bluetooth

Portable Remote Interface
Implementation Approach

- Interface with Windows Media Player
- Bluetooth Communication
- Data Management Algorithm
- Volume Management
- Interface with iTunes
Implementation Approach

- Equalizer Presets
- Testing
- Software Application Deployment
Results

- Music-In-Control working prototype finished in May 5, 2009.

- Interface with iTunes and Windows Media Player Control and Music Library.

- Data structure to handle Music Library information.
Results

- Use of Touch Screen as user input.
- Management of Volume and Equalizer Presets remotely.
- Wireless communication between software application and hardware prototype using Bluetooth technology.
Conclusion

• Every minute counts and every day of work is as important as the next one.

• The assignment of tasks in pairs decreased learning curve and implementation time.

• Respect, trust and cooperation are key elements to a successful project.
References

Questions?