Interface Programming Coursework 2



Kinect Interactive programming Application

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# Introduction

This project will explore the field of human computer interaction, the various techniques of interaction with applications or computers used by people with differing physical ability and depending on the context of the GUI application that will be built. A number of these techniques and principles will be compared through thorough research and documented in this report. An implementation of these principles will be designed and developed in the form of an interactive application through which the user can intuitively navigate and make use of to gain knowledge of a programming language. The goal of this project is to successfully use the findings of the research to develop an appropriate implementation in the form of an interactive programming practice environment.

# Background Research

Before delving into the design and implementation, some research must be carried out on the HCI techniques that could be included in the final application. Research must also be carried out on the field of programming languages in general - the functionalities they provide, and , as the final build will make use of these concepts and be implemented to create ae

## What is HCI

By definition HCI (Human Computer Interaction) “is the study of the way in which computer technology influences human work and activities.” Dix A. (2009). This means

## What makes a good HCI

A good HCI boils down to the general usability of the application or interface. A comprehensive definition of Usability is provided by the Nielsen Norman group, a company that specializes in research and evidence based UX guidelines. An article written by Jakob Nielsen states that “*Usability is a quality attribute that assesses how easy user interfaces are to use. The word "usability" also refers to methods for improving ease-of-use during the design process.”* (Nielsen, J. 2017). According to the same author, the usability of an application is defined by 5 key characteristics:

* Learnability – how quick the users of the application can perform basic tasks when using the application for the first time.
* Efficiency – when proficient in using the application, how quickly can tasks be completed as compared to a similar application performing the same task.
* Memorability – how long does it take a user who doesn’t use the application for a period of time to become fully competent again.
* Errors – does the user make many errors? What are their severity and how smoothly can they be recovered from?
* Satisfaction – does the user interface prove to be pleasant to use, both aesthetically and functionally?

HCI Guidelines

# Application Development

## Requirements

## Design

## Implementation

Key Methods

Voice Navigation

# Project - Source code of the project including edited screenshots, videos, images and commentary.

# Bibliography