Cairo University  
Faculty of Computers and Artificial Intelligence

**CS251**

**Intro. to Software Engineering**

Project Name

Software Requirements Specifications

Version 1.0

Team Names and Emails and Phone of Team Leader

Month & Year

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# Team

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# Document Purpose and Audience

* What this document is:
  + This document’s purpose is to serve as a reminder to the developers of what they are building and keep a concise and complete list of requirements, if a requirement is not In this document then it is not in the code.
* Who is expected to read this document:
  + Anyone involved with the development of this application, namely the developers.

# Introduction

## Software Purpose

## The purpose of this software is to facilitate easy connection between a user’s devices.

## Software Scope

## 

## Definitions, acronyms, and abbreviations

# Lan: local area network; all devices connected to the same network locally

WAN: wide area network; namely the world wide web

# Requirements

## Functional Requirements

* The application provides the user with the ability to control their computer’s io from their phone via a LAN, WAN or a wire.
* The application should simulate having the computer’s screen as a touch screen if connected from phone.
* The application provides the ability of sharing files between the two devices.
* The application provides the user with the ability to control their phone’s io from their computer via a LAN, WAN or a wire.
* The application should keep a list of the previously connected devices and facilitate easy reconnection to them.
* The application provides the user with the ability to simulate a controller via the phone’s touch screen
* The application should be able to handle connecting a controller to the phone and controlling the computer via said controller
* The application should be able to stream the computer’s screen to the phone’s screen and vice versa.
* The application should be able to wake up and shut down the computer from the phone.

## Non Functional Requirements

|  |  |
| --- | --- |
| **Requirement** | **Details** |
| **Performance** | **The application should be able to connect to a device within 30 seconds or less** |
| **Performance** | **The application should be light enough to work on a core i3 2nd gen computer with 8 gigabytes of ram without using more than 10% of any of the system’s resources.** |
| **Performance** | **The application should only add a maximum of 20 ms of latency over the network connection, For example, if my internet connection has a 60ms of latency between the two devices: I should only have to wait 80ms for my input to show up on the computer and the feedback be returned to my phone or vice versa.** |
| **Network usage** | **The application should be able to dynamically change the resolution sent to the device per the user’s request.** |
| **Security** | **The application mustn’t introduce new vulnerabilities to the user’s devices.** |

# System Models

## Use Case Model

We only have one actor: the general user.

|  |  |  |
| --- | --- | --- |
| Usecase | Input | output |
| Local device connection | Device identification for a local device | A connection between the two devices |
| Computer controlling | Simulated keyboard or mouse io using the phone’s touch screen or a connected mouse and keyboard to the phone | The computer will treat input from the phone’s io as its own. |
| Phone controlling | Simulate input from various inputs to the phone’s screen | Phone will treat the simulated input as its own touch screen. |
| Controller simulation | Use the phone’s touch screen as a game controller for the computer | - |
| File sharing | The directory to be shared | The directory should be viewable from both devices. |
| Computer wakeup | Identification of a previously connected computer | The computer should start up. |

## Enriched User Stories

* **User Story #1**

|  |  |
| --- | --- |
| **User Story ID** | US #1 |
| **User Story Name** | Local device connection |
| **Actors** | Standard user |
| **Description** | **As** a Standard user  **I like** to be able to connect my computer to my phone  **So** I will open the application and connect my devices. |
| **Per condition** | Both devices on the same local network |
| **Post condition** | Both devices connected. |
| **Acceptance Criteria** | **Given** I have devices that are not connected  **When** Connect the devices  **Then** the devices will be connected |

* **User Story #2**

|  |  |
| --- | --- |
| **User Story ID** | US #2 |
| **User Story Name** | Computer controlling |
| **Actors** | User with connected devices |
| **Description** | **As** a User with connected devices  **I like** to be able to control my computer from my phone  **So** I will use my phone as an interface for my computer |
| **Per condition** | User’s phone and computer are connected |
| **Post condition** | Phone input shows up on computer |

* **User Story #3**

|  |  |
| --- | --- |
| **User Story ID** | US #3 |
| **User Story Name** | Phone controlling |
| **Actors** | User with connected devices |
| **Description** | **As** a User with connected devices  **I like** to be able to control my phone from my computer  **So** I will use my computer as an interface for my phone |
| **Per condition** | User’s phone and computer are connected |
| **Post condition** | Computer input shows up on phone |

* **User Story #4**

|  |  |
| --- | --- |
| **User Story ID** | US #4 |
| **User Story Name** | Controller simulation |
| **Actors** | User with connected devices |
| **Description** | **As** a User with connected devices  **I like** to be able to use my phone as a gamepad for my computer  **So** I will choose the gamepad setting and use it. |
| **Per condition** | User’s phone and computer are connected |
| **Post condition** | Phone controller input shows up on computer |

* **User Story #5**

|  |  |
| --- | --- |
| **User Story ID** | US #5 |
| **User Story Name** | File sharing |
| **Actors** | User with connected devices |
| **Description** | **As** a User with connected devices  **I like** to be able to share files between my devices  **So** I will create a shared directory for my devices. |
| **Per condition** | User’s phone and computer are connected |
| **Post condition** | Either device can access files in the shared directory as their own. |

* **User Story #6**

|  |  |
| --- | --- |
| **User Story ID** | US #6 |
| **User Story Name** | Computer startup |
| **Actors** | User with connected devices |
| **Description** | **As** a User with connected devices  **I like** to be able to startup my computer from my phone  **So** I will specify the computer to startup |
| **Per condition** | User’s phone and computer are connected |
| **Post condition** | Computer is running. |