Healage Kinect User Manual

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Introduction

The Healage Kinect System utilizes python 3.0, PyKinect V2, and the Microsoft Kinect V2 SDK. This system requires an active healage login along with the proper hardware requirements as listed below.

System Requirements

- USB 3.0 Port or USB 3.0 Hub with external power supply
- Windows 10 (Recommended) or Above
- Physical Dual Core 3.1 Ghz or Faster Processor
- 4 GB of Memory
- 64-bit Processor (x64)
- DX 11 Capable Graphics
- Microsoft Kinect V2 Sensor, with power hub and cabling
- Latest Microsoft Kinect V2 Drivers (Connect Kinect and Go to Windows Update, and then select update)

Downloading Appropriate Software

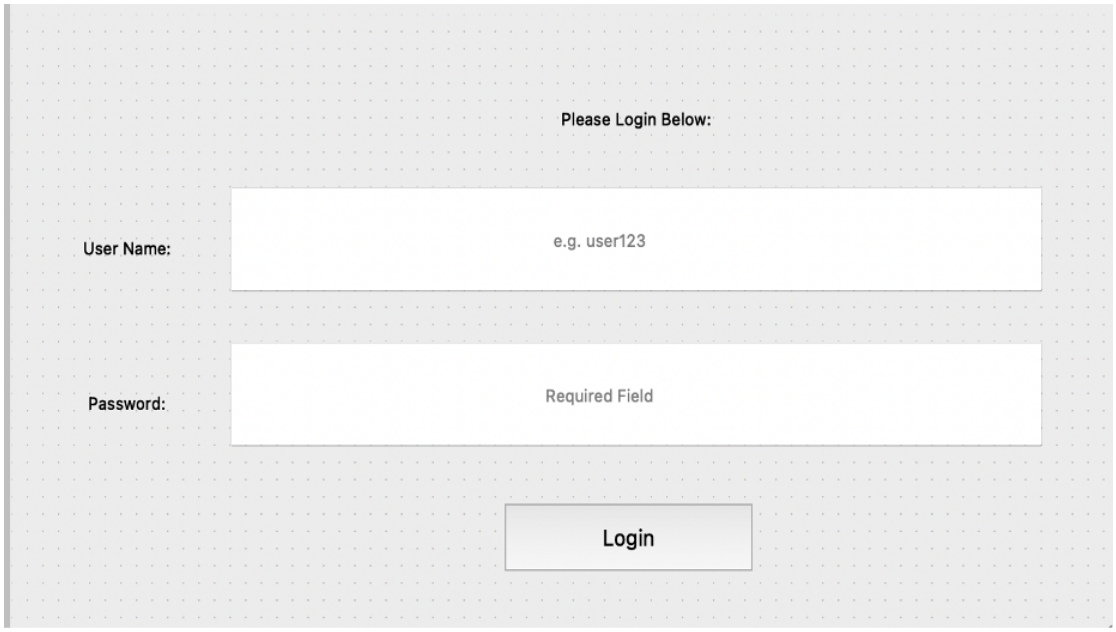
To Download the Software Follow the Directions Below:

1. Please Navigate to the following page to obtain software: https://github.com/datax-lab/NIHAN-Kinect/releases.
2. Download the .zip file
3. Unzip the file and move to the desired location on the computer.
   Note: Download time and opening time may take some time at first.
4. Please Plug in your Kinect device into your computer and ensure that your system is updated, as drivers for the Kinect are provided through the windows update manager and are required for the program to run properly.

Initial Setup and Quick Start

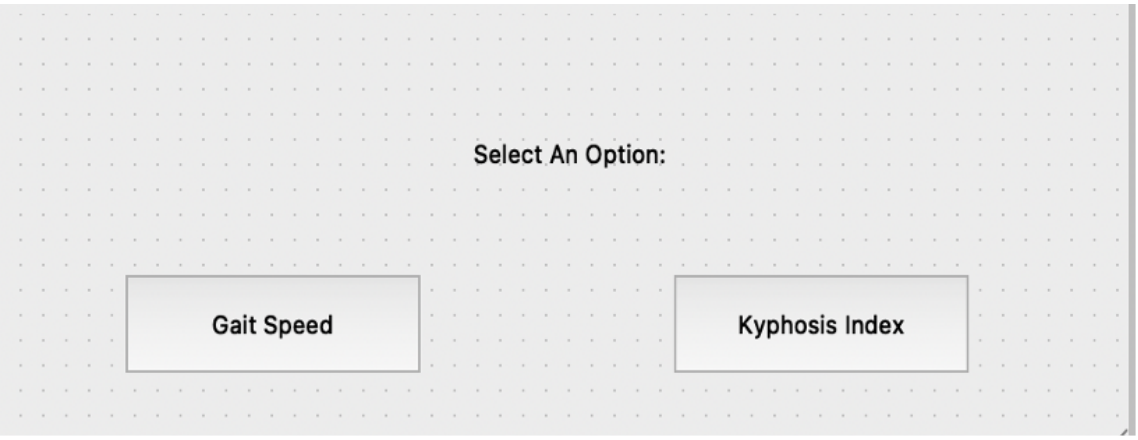
To get started:

1. Locate the installation directory on your computer.
2. Open the Directory, and look for the kinectAnalyzer.exe file, as this is the main program, DO NOT move this program from the directory to another.
3. Double-Click to Open the **Healage Kinect.exe** program; Be aware you may get a Microsoft Defender Window alerting that this program is not properly signed, please press the more info button and select open anyway.
4. Wait a few moments, if the program does not launch, please double-click the program again.
5. You will now be presented with the following screen:



6. Please login with your Healage credentials and submit the two-step-verification code when prompted.

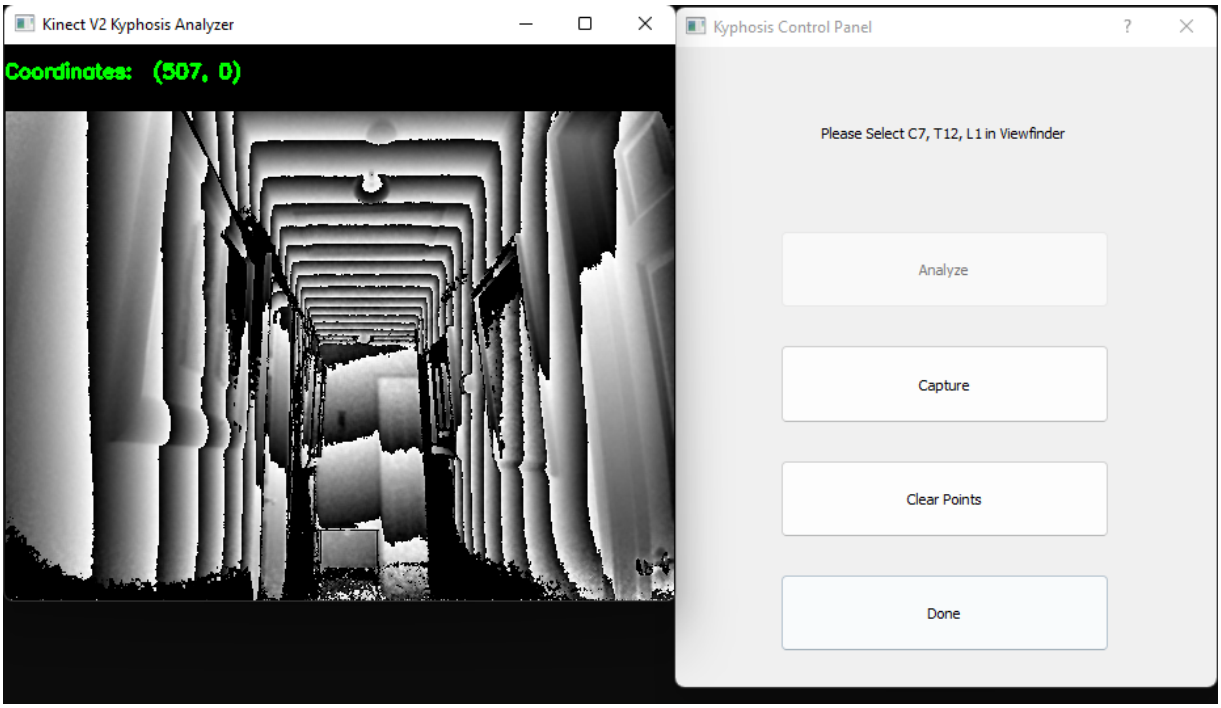
7. After A Successful Login You Will Be Presented with a Program Selection Screen:



8. Please View Appropriate Page For each Program

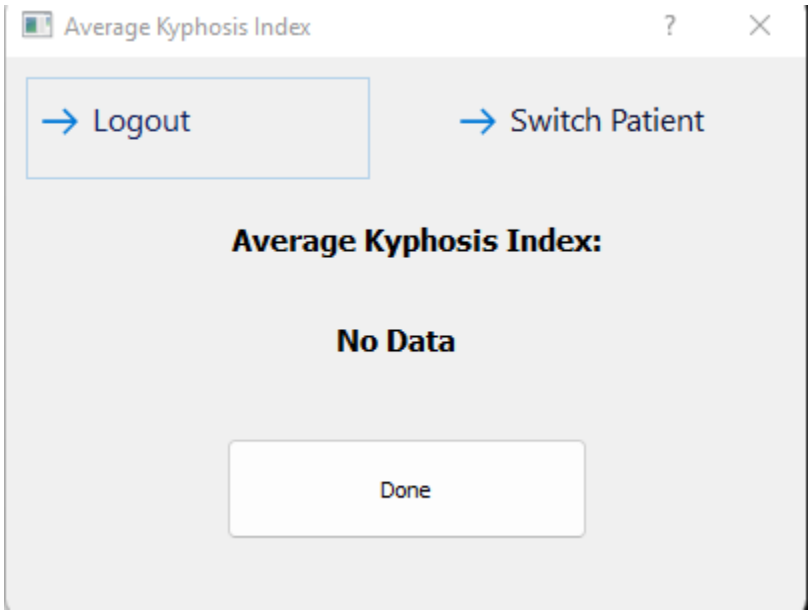
Kyphosis Index Measurement

1. Select ‘Kyphosis Index’ From Program Selection Screen
2. The program will greet you with the screen below:



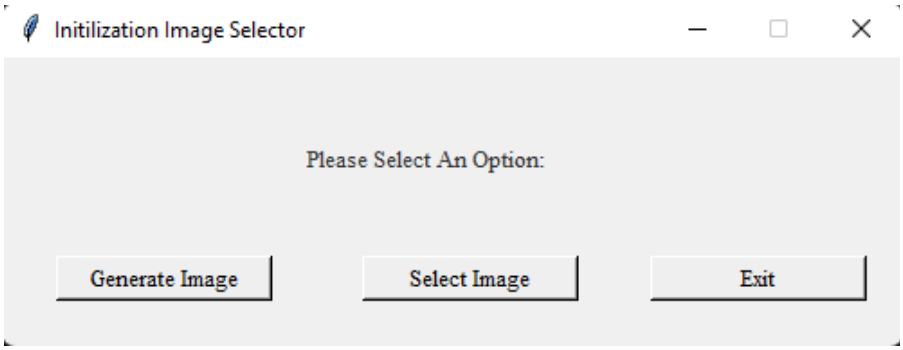
3. Adjust the Kinect as Follows:
    a. Adjust the Kinect so that it is at least 1 Meter away from the patient
    b. Adjust the Height of the Kinect so that it leveled with the mid-scapular region
    c. Have the patient show their best posture
4. Follow the rest of the prompts that are shown above the ‘Analyze’ Button
    a. You may press the ‘Done’ button at any time to end the measurement
    b. You can run multiple analyzation of the same patient by simply pressing ‘Analyze’ once it re-enables itself, but do note that each analyzation will become apart of a final average

5. Upon pressing ‘Done’ a pop will show the average of the measurements and the **data will automatically be uploaded to the healage site**. See image below (This does not reflect an actual measurement):



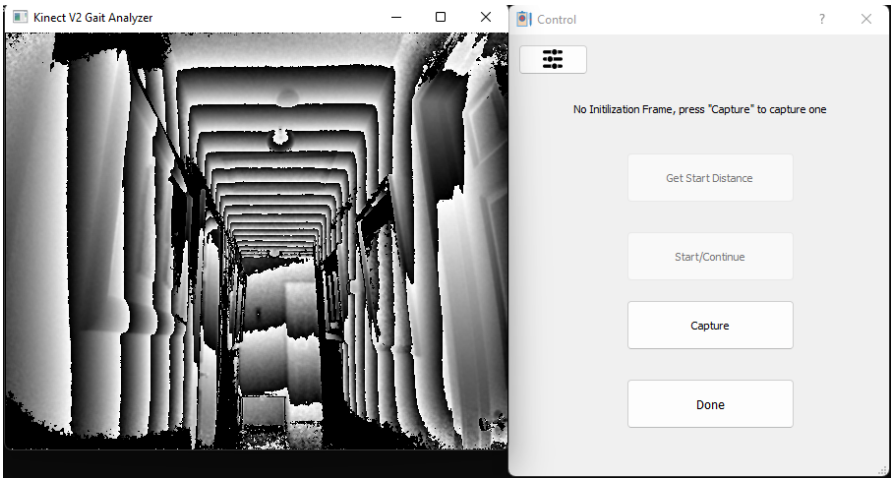
Gait Measurement

1. Select the ‘Gait Speed’ option from the Program Selection Screen
2. Upon pressing the option, a prompt will appear for an initialization image:

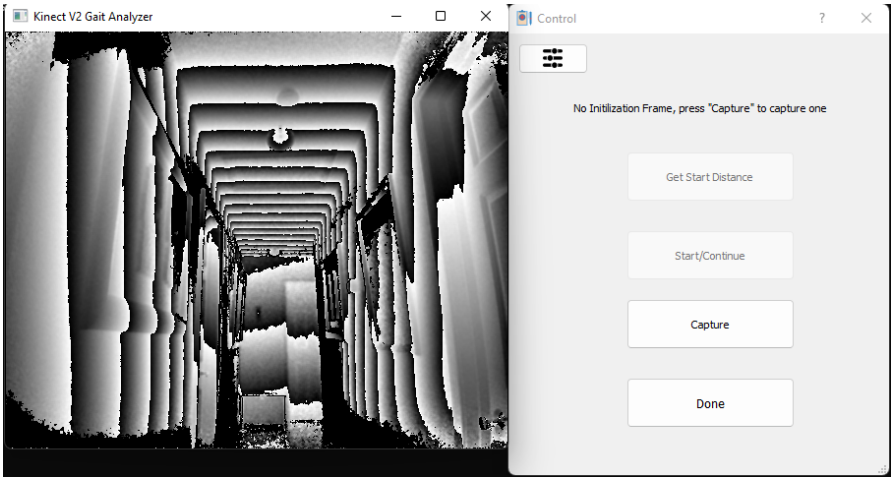


3. It is recommended that you select ‘Generate Image’ to create a new initialization image each time the program is run, as this provides the best accuracy when it comes to tracking a patient’s gait. But you may choose to use a previous one.
   Note the following:
   a. When Generating an image **you must clear the area within the camera view** and then press the ‘capture’ button
   b. The program requires a specific type of image, which only this program can generate. So you must select an image that was generated by this program when it prompts you to do so. Also every time an image is generated it is saved in the init_images folder located in the program’s parent directory if you desire to use a previous image.

c. If you choose to generate an image the program will provide instructions above the ‘Get Start Distance’ to do so. See image below:

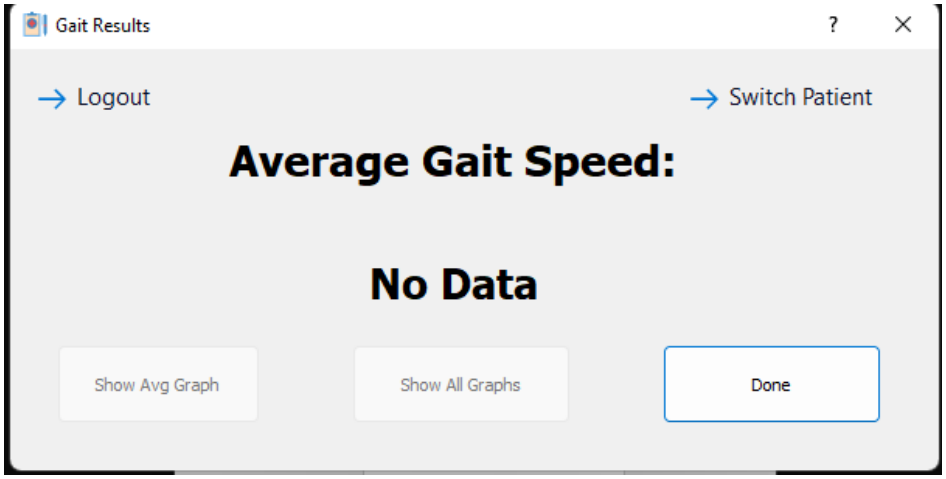


4. You will now be presented with the following screen after either selecting to generate an image or use a previous one:



5. Once the program verifies it has an initialization image the ‘Get Start Distance’ button will allow you to press it; pressing the button will allow the program to do some calibration and identify how far the patient is from the camera starting out. **DO NOT have the patient start walking.**
6. Once calibration is complete, which should only take 1 or 2 seconds, the program will prompt you to press the ‘Capture’ button which will then begin the gait measurement. **Upon pressing the ‘Capture’ button you may now instruct the patient to start their Walk.**

7. Once the patient has reached the end of the measurement zone the program will automatically pause, then a pop up will display the average walking speed:
    a. On this screen the medical provider may view a graph that shows the speed a patient was walking at each meter. This can be done by pressing the ‘Show Graph’ button on this pop up.
    b. The popup will provide the options of either continuing, which would allow you to run the measurement again on the same patient, or saving and quitting. Saving and quitting will average all speeds collected on the patient, along with calculations for a new graph that shows the overall gait speed data at each meter. View next step for more details.
8. Once you have selected the ‘save and quit’ button from the pop-up, the program will immediately perform calculations to average all the speeds collected on a patient, and will create a final graph showing the speed of the patient at each meter. Upon completion of these calculations **data will automatically be uploaded to the healage site**. See the image below:



    a. The options are grayed out because this is a demonstration image. But you should see these options available when you run the program.
    b. This ui will give you the option to see the final graph, along with seeing all the recent graphs that belong to the patient.

c. Here you may also choose to logout or simply stay logged in and switch to a different patient. Pressing the ‘Done’ button will immediately close the program.