SOFTWARE REQUIREMENTS SPECIFICATION

Kinecticons

Version 2.3

May 7, 2013

TEXAS CHRISTIAN UNIVERSITY

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Revision History

The following is a history of document revisions.

Version	Changes	Edited
Version 1.0	Initial draft	10/17/2012
Version 1.1	Revised based on feedback	11/29/2012
Version 1.2	Included updated use cases and corrected requirements.	12/12/2012
Version 2.0	Updated document to version 2.0.	2/19/2013
Version 2.1	Updated System Architecture diagram. Updated requirement 6.5.2 regarding audio cues. Update requirement 6.3.2 regarding information stored into the database. Updated the glossary.	3/28/2013
Version 2.2	Updated System Architecture diagram. Updated use cases to reflect current project.	4/19/2013
Version 2.3	Fixed grammar, updated information.	5/7/2013

Revision Sign-off

By signing the following, the team member asserts that he has read the entire document and has, to the best of his knowledge, found the information contained herein to be accurate, relevant, and free of typographical error.

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1. Introduction

1.1. Purpose

This document contains all requirements for the TCU Computer Science Senior Design project, *Therapy Kinection*. Specifically, this document will outline the functional, non-functional, and technical requirements of the project, as well as the use case diagram and explanations. The requirements are based on the rubric for the Ben Hogan Sports Medicine Vail Sport Test and also feedback from Physical Therapists, Mike Macko and Craig Garrison, from Texas Health Ben Hogan Sports Medicine.

1.2. Intended Audience

This document is for the team developing *Therapy Kinection*, to provide a reference for what is necessary to complete the project. It is also intended for the Ben Hogan Sports Medicine, to provide verifiable requirements to check against their needs. The main feedback clients are Mike Macko and Craig Garrison from Texas Health Ben Hogan Sports Medicine.

1.3. Overview

The document contains the following sections:

Section 2 – Project Overview: Outlines the scope and objectives of the project as well as provides background information on hardware used and the Vail Sport Test.

Section 3 – Overall Description: Outlines the users, constraints and the environment for the system.

Section 4 – System Architecture: Illustrates the hardware connections needed for the system.

Section 5 – External Interface Requirements: Describes interfaces the user will interact with.

Section 6 – Functional Requirements: Defines the functions of the software system and its components.

Section 7 – Non-functional Requirements: Defines constraints and behaviors of the system.

Section 8 – Glossary of Terms: Informs the reader of any technical terms and/or abbreviations used throughout this document.

2. Project Overview

2.1. Project Background

The Vail Sport Test is a series of tests used to help determine whether or not an athlete is ready to go back to their sport after an injury. Specifically, the Vail Sport Test focuses on anterior cruciate ligament (ACL) injuries. There are four parts to the test: one-legged squats, lateral bounding, forward sprints, and backward sprints. A large portion of the test is judging the angles of the knee joints in order to determine if the range of motion is adequate. Currently, the test is videotaped and the angles are estimated by therapists. Therapists, from Ben Hogan Sports Medicine, are looking for a method of scoring the Vail Sport Test performance that is more objective than the current techniques, for the purpose of validating the grading rubric that Craig Garrison helped create.

2.2. Scope and Objectives

The objective of *Therapy Kinection* is to provide an objective and intuitive way to conduct and evaluate the Vail Sport Test. The facilitating technology will be the Microsoft Kinect. Therapists will be able to accurately measure a patient's performance in real-time, to help the therapist correctly test and analyze the injured athlete. This ultimately allows the therapist to provide the best possible treatment to the patient.

The Fall Semester will focus on creating the initial documentation, along with learning the platform, C#, and the Kinect API, culminating with the first iteration which will contain our graphical user interface (GUI) and the ability to track and display Kinect data.

The Spring Semester will focus on creating multiple iterations of the project, and getting feedback from the Physical Therapists between each iteration. After significant testing and revising of the product, the product will be shown at SRS, NTASC, and the software will be delivered to Mike Macko and Craig Garrison from Texas Health Ben Hogan Sports Medicine.

3. Overall Description

3.1. Product Perspective

Therapy Kinection is a system designed to objectively evaluate patients performing the Vail Sport Test. The system consists of a desktop program which interfaces with the Microsoft Kinect as well as storing patient data on a local database. The database provides an easy way for therapists to query patient information and analyze results.

3.2. User Requirements

Therapy Kinection must allow a therapist to administer an objective and automated version of the Vail Sport Test. The application must be user-friendly, require minimal training, and accurately score the patient during the test. In addition, the application must store information about patients and test scores in a database for later use by the therapists.

3.3. User Characteristics

Therapy Kinection is designed to be used by therapists during the administration of the Vail Sport Test. The therapists will interface with the system, registering patients and querying the database in order to analyze the collected data.

3.4. Constraints

- Time Constraints:
  - Limited by the school year (May 2013).
- Kinect Limitations:
  - Maximum Kinect capture rate of 30fps.
  - Requires 1 Kinect unit.
- Database/Computer Limitations:
  - Storage limitation if too many patients added

3.5. Operating Environment

Therapy Kinection will be a software application installed on a computer for use at Ben Hogan Sports Medicine. The computer will run Windows 7, meet the minimum requirements for using the Microsoft Kinect, and have one Kinect unit connected to it.

The Microsoft Kinect requires a computer with a dual-core processor running at 2.66 GHz, 2 GB of memory, and a powered USB port.

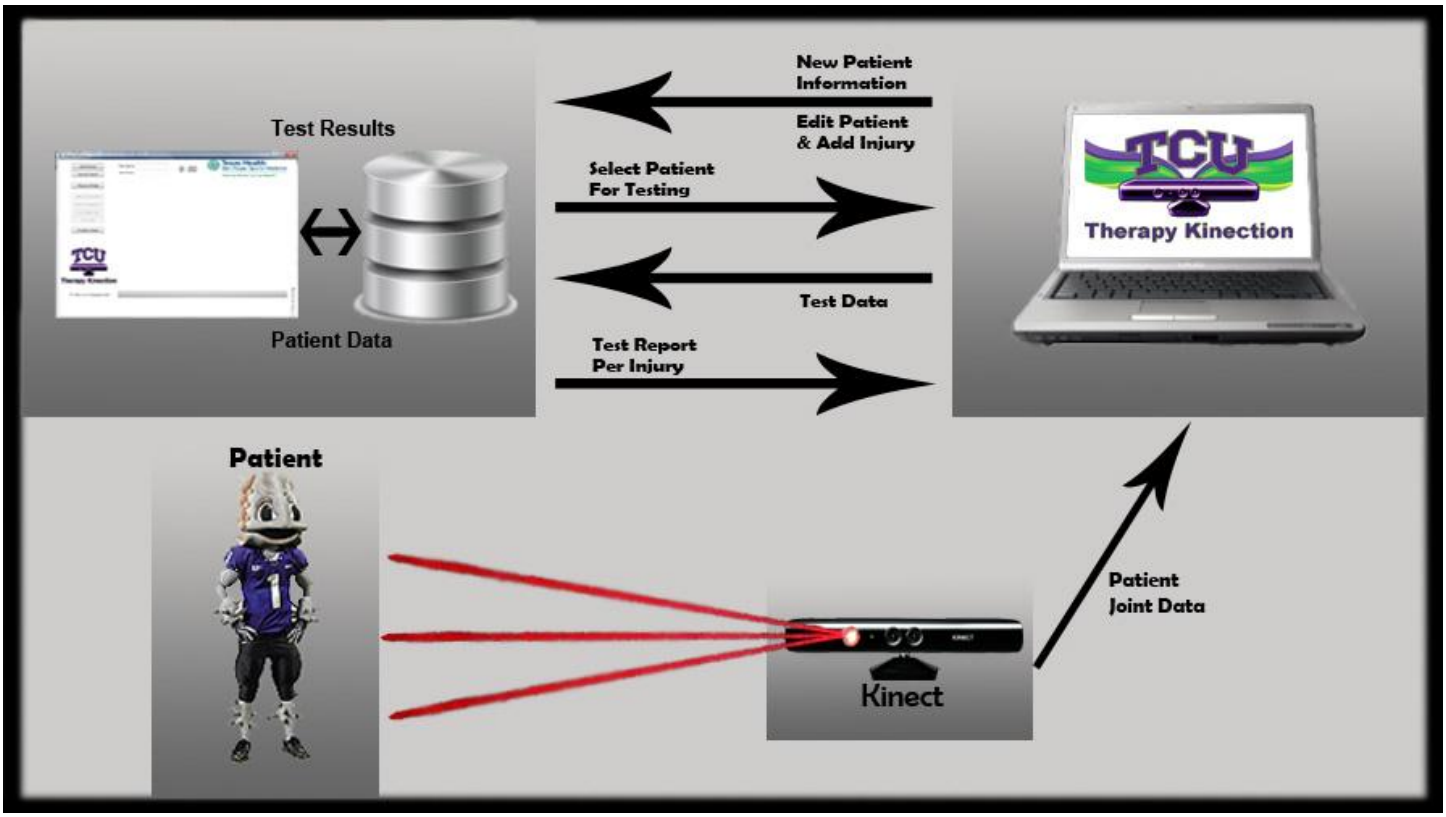
3.6. Assumptions and Dependencies

Based on feedback from Mike Macko and Craig Garrison, we are assuming that our application will not require any specific development practices to meet HIPAA requirements. The computer provided by the Texas Health Resources IT Department will meet any HIPAA requirements necessary to be used in Therapy.

We are assuming that one Kinect unit will be purchased by the Texas Health Resources IT Department to interact with our software.

Therapy Kinection cannot analyze fast movements, so the program will be dependent on how fast the patient performing the Vail Sport Test is performing the exercises.

4. System Architecture



5. External Interface Requirements

5.1. User Interfaces

The user will interface with the *Therapy Kinection* desktop program by first creating a new patient or searching the database for an existing patient.

Choosing to perform the full-test will result in the program executing all four parts of the Vail Sport Test in order. While the test is being executed the system will record the patient's performance and store the information for each part of the test.

Practice mode allows for the therapist to choose one specific exercise of the Vail Sport Test. During this mode no information is stored in the database; however the system still provides feedback.

5.2. Hardware Interfaces

The program will be run on the therapist's computer, storing patient information on the hard disk. The program will use one Kinect unit connected to the computer, via USB 2.0, to measure the exercises.

5.3. Software Interfaces

The *Therapy Kinection* application will feature an intuitive user interface for the physical therapists to use. The application will facilitate access to the patient database. Because the program and database will run only from the therapist's computer and the system does not have any outside communication, Mike Macko and Craig Garrison stated that all HIPPA requirements will be dealt with by the Texas Health Resources IT Department.

6. Functional Requirements

6.1. General Requirements

6.1.1. GEN01
The application will allow the therapist to objectively analyze the four sections of the Vail Sport Test performed by the patient.

6.1.2. GEN02
A database will be created to store patient information, injury information and the patient's test data locally on the therapist's computer.

6.1.3. GEN03
The ambient temperature of the room where the Kinect is stationed must be less than 84 degrees Fahrenheit.

6.2. Desktop Program Requirements

6.2.1. DPR01
The therapist will be able to create a new patient and a new injury to be stored in the database.

6.2.2. DPR02
The therapist will be able to load an existing patient's information and test data from the database.

6.2.3. DPR03
The therapist will be able to edit an existing patient's information as well as set a patient to active or inactive.

6.2.4. DPR04
The therapist will be able to delete an existing patient's information, injury information and test data from the database.

6.2.5. DPR05
The full test option will allow the therapist to run all four sections of the Vail Sport Test in order. During full test mode, test results will be recorded to the database.

6.2.6. DPR06
The program will facilitate a "Practice Mode" that will allow the therapist to test the system, and allow the patient to properly practice outside of a test environment.

6.2.7. DPR07
The desktop program will allow the therapist to export patient information, injury information and test results to examine outside of the system.

6.3. Database Requirements

6.3.1. DBR01
Because there is not a unique key for patients, an arbitrary ID will be created by the database for patients. This ID will then be used as the key.

6.3.2. DBR02
The database will store patient information including first name, last name, middle initial, start date, study number, subject ID, DX, involved side, MD, surgery date, Iliac Crest-Greater Trochanter, Iliac Crest-Anterior Superior Iliac Spine, and THR ID.

6.3.3. DBR03
After the test, the database will store the score for each of the four components of the Vail Sport Test.

6.3.4. DBR04
All interactions with the database will be through the desktop program, therapists will have the option to export information to use outside of the system.

6.5. Activity Requirements

6.5.1. ACR01
There are a total of four components in the test: single leg squat, lateral bounding, forward jogging, and backward jogging.

6.5.2. ACR02
During each component, audio cues consisting of the system bell, will inform the therapist of incorrect repetitions performed by the patient.

6.6. Single Leg Squat Requirements

6.6.1. SLSR01
The system will measure a knee flexion angle greater than 30 degrees during the squat.

6.6.2. SLSR02
The system will determine if the patient kept their knee centered above their big toe during the squat.

6.6.3. SLSR03
The system will check if the patient's knee locks when coming up from the bottom of the squat.

6.6.4. SLSR04
The system will measure if the patient's knee extends beyond their foot during the squat.

6.6.5. SLSR05
The system will measure the angle of the patient's upper body about their waist, to ensure they stay upright during the exercise.

6.6.6. SLSR06
If an incorrect repetition is detected, an audio cue will be played to inform the therapist and patient.

6.6.7. SLSR07
The score will be recorded to the database in an efficient manner.

6.7. Lateral Bounding Requirements

6.7.1. LBR01
The system will measure the knee flexion angle during the landing, to determine if it exceeds 30 degrees.

6.7.2. LBR02
The system will determine if the patient kept their knee centered above their big toe during the squat.

6.7.3. LBR03
The system will measure if the patient lands within the landing boundaries established for this test.

6.7.4. LBR04
The system will time the duration that the patient has landed to determine if the patient has stopped for more than 1 second.

6.7.5. LBR05
The system will measure the angle of the patient's upper body about their waist, to ensure they stay upright during the exercise.

6.7.6. LBR06
If an incorrect movement is detected, an audio cue will be played to inform the therapist and patient.

6.7.7. LBR07
The score will be recorded to the database in an efficient manner.

6.8. Forward Jogging Requirements

6.8.1. FJR01
The system will measure a knee flexion angle greater than 30 degrees during the squat.

6.8.2. FJR02
The system will measure if the patient lands within the landing boundaries established for this test.

6.8.3. FJR03
The system will determine if the patient kept their knee centered above their big toe during the squat.

6.8.4. FJR04
The system will check if the patient's knee locks when coming up from the bottom of the squat.

6.8.5. FJR05
The system will time the duration that the patient has landed to determine if the patient has stopped for more than 1 second.

6.8.6. FJR06
The system will measure the angle of the patient's upper body about their waist, to ensure they stay upright during the exercise.

6.8.7. FJR07
If an incorrect movement is detected, an audio cue will be played to inform the therapist and patient.

6.8.8. FJR08
The score will be recorded to the database in an efficient manner.

6.9. Backward Jogging Requirements

6.9.1. BJR01
The system will measure a knee flexion angle greater than 30 degrees during the squat.

6.9.2. BJR02
The system will measure if the patient lands within the landing boundaries established for this test.

6.9.3. BJR03
The system will determine if the patient kept their knee centered above their big toe during the squat.

6.9.4. BJR04
The system will check if the patient's knee locks when coming up from the bottom of the squat.

6.9.5. BJR05
The system will time the duration that the patient has landed to determine if the patient has stopped for more than 1 second.

6.9.6. BJR06
The system will measure the angle of the patient's upper body about their waist, to ensure they stay upright during the exercise.

6.9.7. BJR07
If an incorrect movement is detected, an audio cue will be played to inform the therapist and patient.

6.9.8. BJR08
The score will be recorded to the database in an efficient manner.

7. Non-functional Requirements

7.1. Performance Requirements

7.1.1. PR01
The program must be fast and efficient enough to give accurate real-time data.

7.1.2. PR02
The database must be efficient enough to be accessed and manipulated in 10 seconds or less.

7.2.3 PR03
All measurements and test scores must be completed as described by the Vail Sport Test.

8. Glossary of Terms

Anterior Cruciate Ligament (ACL) – One of the 4 major ligaments of the human knee.

Anterior Superior Iliac Spine - The forward-most edge on top of the hip bone.

C# - Programming language developed by Microsoft. The language is used for Kinect and general Windows Application programming.

Component – Any of the four portions of the Vail Sport Test.

Dynamic knee valgus - The bending angle of the knee inward, past the big toe, towards the opposite leg during the exercise.

Greater Trochanter - The top of the femur bone, excluding the ball of the joint.

Iliac Crest - The outer edge of the top of the hip bone.

Knee flexion - The angle the knee makes while bending the leg.

Microsoft Kinect - Kinect is a motion sensing input device by Microsoft for the Windows PCs. Based around a webcam-style add-on peripheral, it enables users to control and interact with PC through a natural user interface using gestures and spoken commands. The Kinect also recognizes 20 joints on the human body at a capture rate of 30 Hz.

Microsoft Visual Studio 2010 - An IDE that is used for many different types of programming languages, primarily languages developed by Microsoft.

Patella extending past big toe - During the leg squat the patient cannot extend the front of their knee past the front of their big toe during the squat.

Upright trunk – Defined by Craig Garrison as the trunk of the patient being straight up and less than 30 degrees to either side, or 60 degrees forward.

Vail Sport Test - A physical therapy test, co-developed by Craig Garrison, that is used to determine if the patient has regained the proper strength in his or her ACL to return to normal physical activity. A research paper concerning the test can be found here:
http://www.texashealth.org/workfiles/THR%20System/Ben_Hogan/Garrison%202012.pdf

9. Appendix

9.1. Appendix A: Vail Sport Test

VAIL SPORT TEST™

Name: _____ **Date:** _____

MD: _____ **DX:** _____ **Mo. S/P:** _____

Total Points: _____**/54** * Patient must score 46/54 on the test in order to pass

Single Leg Squat (goal: 3 minutes)

1. Knee flexion angle between 30 and 60°

Yes (1) No (0)

2. Patient performs repetitions without dynamic knee valgus

*knee valgus = patella falls medial to the great toe

Yes (1) No (0)

3. Patient avoids locking knee during extension

Yes (1) No (0)

4. Patient avoids patella extending past the toe during knee flexion

Yes (1) No (0)

5. Patient maintains upright trunk during knee flexion

Yes (1) No (0)

Minute 1 _____ Minute 2 _____ Minute 3 _____

Single Leg Squat Total Points: _____/15

• If patient repeats error on 3 consecutive repetitions after correction, they are not eligible to receive a point for that particular standard (within each 1 minute timeframe).

Lateral Bounding (goal: 90 seconds)

1. Knee flexion angle is 30° or greater during landing

Yes (1) No (0)

2. Patient performs repetitions without dynamic knee valgus

*knee valgus = patella falls medial to the great toe

Yes (1) No (0)

3. Patient performs repetitions within landing boundaries

Yes (1) No (0)

4. Landing phase does not exceed 1 second in duration

Yes (1) No (0)

5. Patient maintains upright trunk during knee flexion

Yes (1) No (0)

1st 30 sec _____ 2nd 30 sec _____ 3rd 30 sec _____

Lateral Bounding Total Points _____/15

• If patient repeats error on 3 consecutive repetitions after correction, they are not eligible to receive a point for that particular standard (within each 30 second timeframe).

Forward Jogging (goal: 2 minutes)

1. Knee flexion angle between 30 and 60°

Yes (1) No (0)

2. Patient performs repetitions within landing boundaries

Yes (1) No (0)

3. Patient performs repetitions without dynamic knee valgus

* knee valgus = patella falls medial to the great toe

Yes (1) No (0)

4. Patient avoids locking knee during extension

Yes (1) No (0)

5. Landing phase does not exceed 1 second in duration

Yes (1) No (0)

6. Patient maintains upright trunk during knee fl exion

Yes (1) No (0)

Minute 1 _____ Minute 2 _____

Forward Jogging Total Points _____/12

• If patient repeats error on 3 consecutive repetitions after correction, they are not eligible to receive a point for that particular standard (within each 1 minute timeframe).

Backward Jogging (goal: 2 minutes)

1. Knee flexion angle between 30 and 60°

Yes (1) No (0)

2. Patient performs repetitions within landing boundaries

Yes (1) No (0)

3. Patient performs repetitions without dynamic knee valgus

* knee valgus = patella falls medial to great toe

Yes (1) No (0)

4. Patient avoids locking knee during extension

Yes (1) No (0)

5. Landing phase does not exceed 1 second in duration

Yes (1) No (0)

6. Patient maintains upright trunk during knee flexion

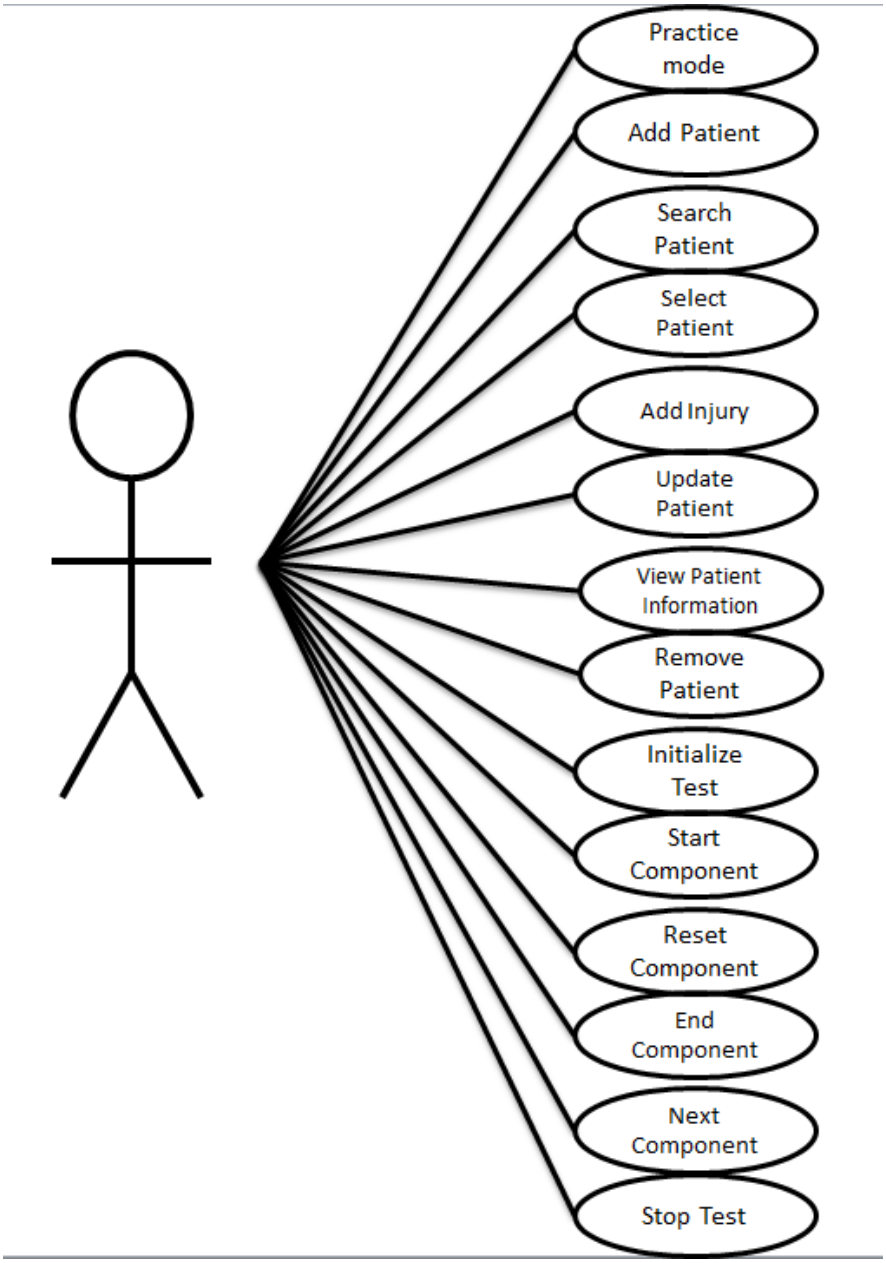
Yes (1) No (0)

Minute 1 _____ Minute 2 _____

Backward Jogging Total Points _____/12

• If patient repeats error on 3 consecutive repetitions after correction, they are not eligible to receive a point for that particular standard (within each 1 minute timeframe).

9.2. Appendix B: Use Case Diagram



9.2. Appendix C: Use Case Scenarios

Practice Mode	
Actors	Physical Therapist
Description	The therapist may want to analyze the patient without running through the entire Vail Sport Test. The Practice Mode allows the therapist to pick any component of the test to analyze without the program storing the results into the database during the process.
Data	No data is recorded during this process.
Pre-conditions	Hardware must be connected and running. Software must be running. The therapist must select a patient for testing.
Triggers	Click the “Test Selection” button
Course of Events	1. The therapist must select that they wish to run a practice test. 2. The therapist must select which component they want to practice. 3. The therapist must click the Select button to enable testing with that component.

Add Patient	
Actors	Physical Therapist
Description	Will add a new patient to the database.
Data	The physical therapist will need all of the patient's personal and injury information to input into the program. The data will then be stored into the database.
Pre-conditions	Software must be running and connected to the database. Program must be running at the start page.
Triggers	Press the "Add Patient" button
Course of Events	1. Pop-up window appears for patient information input. 2. Therapist enters the patient information. 3. Therapist clicks "Save" 4. The patient's information and injury information is saved in the database.
Comments	This will be used when the therapist has a new patient to be added to the database.

Search Patient	
Actors	Physical Therapist
Description	Allows the therapist to search the database to find an existing patient.
Data	Therapist will select the category to search by, input the search criteria to search for based on the category selection, and then show search results.
Pre-conditions	Program running at the start page, and program is connected to the database.
Triggers	Press the “Search Patient” Button
Course of Events	1. Pop-up window appears 2. Therapist selects search category 3. Therapist inputs search criteria 4. Search results are displayed in the table 5. Therapist selects the desired patient
Comments	This will be used when the therapist wishes to use a patient for testing that has previously been entered into the database.

Select Patient	
Actors	Physical Therapist
Description	Allows the therapist to select a previously entered patient for testing.
Data	Load patient and injury information for the selected patient and injury.
Pre-conditions	Patient existing in the database. Has successfully searched the database for a patient, with matching results displayed in the table on the Find Patient window. One patient from the table must be highlighted.
Triggers	Press the “Select” Button.
Course of Events	1. Program loads patient and injury information. 2. All windows but main window closes and the program waits for test selection.
Comments	This will be used when the therapist wishes to use a patient for testing that has previously been entered into the database.

Add Injury	
Actors	Physical Therapist
Description	Allows the therapist to create a new entry in the database for a returning patient.
Data	Patient ID, Injury Number, Physician, Diagnosis, Injured Side, Date of Surgery, Active or Inactive, THR ID, Study, Subject ID, Start Therapy Date, End Therapy Date.
Pre-conditions	Software must be running and connected to the database. The therapist must have the Search Patient window displayed. A patient must be highlighted in the Search Patient window.
Triggers	Click the “Add Injury” button.
Course of Events	1. Show the Add Injury window. 2. Therapist fills in all required information. 3. Click Save to enter the new injury for the patient into the database. OR 3. Click Cancel to close the window and return to the Search Patient window.
Comments	If the cancel button is clicked, information is not stored into the database. Multiple injuries are used to prevent creating a new patient if the patient has previously used the Therapy Kinection program but has sustained a new injury and needs to go through therapy again.

View Patient	
Actors	Physical Therapist
Description	Allows the therapist to view saved patient information and previous test results.
Data	Displays all information in the database related to a patient.
Pre-conditions	Therapist must be in the Find Patient window and have a patient selected.
Triggers	Press “View Patient” button.
Course of Events	1. Program displays patient information, injury information and test results.
Comments	Allows the therapist to see patient information, injury information and infer patient progress based on results of previous tests.

Remove Patient	
Actors	Physical Therapist
Description	Removes an existing patient and all information related to the patient from the database.
Data	All data related to a patient is deleted from the database.
Pre-conditions	Therapist must be in the “search” window.
Triggers	Click the “Remove Patient” button.
Course of Events	1. The patient data is removed and the user is taken back to the “Existing Patient” search, once the removal is confirmed.
Comments	Used when either the specific patient will never be used again or if space needs to be freed on the therapists’ computer.

Initialize	
Actors	Physical Therapist
Description	Initialize is used when the therapist wants to run through a full test with the patient. Running the test will walk through all 4 components of the Vail Sport Test in order. During this process the system will score patient performance and insert the data into the database.
Data	All scoring recorded will be stored. Mainly whether the patient passes or fails each specific component.
Pre-conditions	Hardware must be connected and running. Software must be running. A patient must be selected for testing. Patient must be in the Kinect's view.
Triggers	Click the "Initialize" button.
Course of Events	1. The stick figure of the patient will be shown in the image pane. 2. The ability to start a component of the test will be enabled.
Comments	Must have a new or existing patient selected for testing. The test can be stopped at any point. Components of the test can be skipped (only in Practice Mode), restarted, or ended.

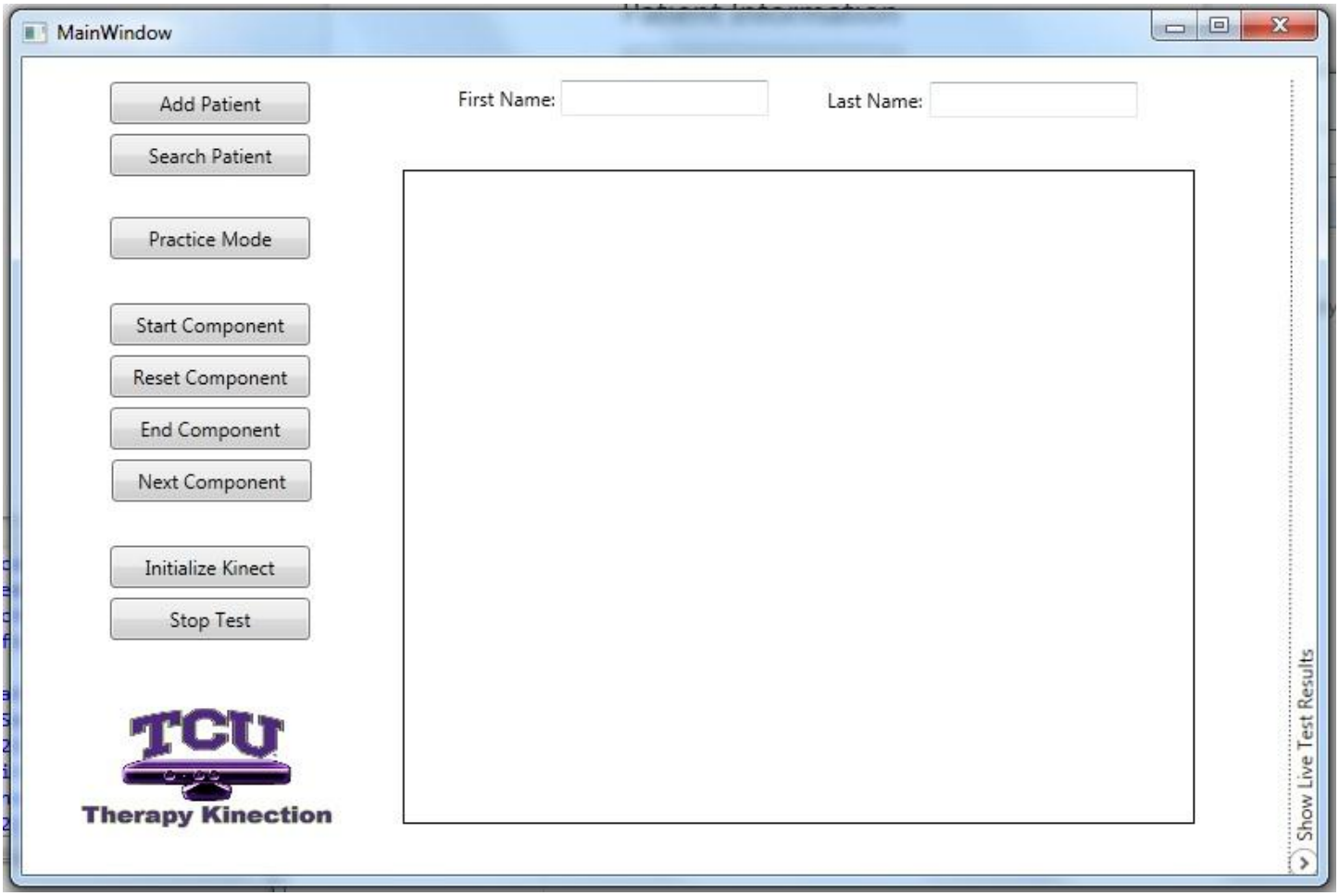
Start Component	
Actors	Physical Therapist
Description	Starts the execution, data gathering and timing of the current Component.
Data	Gathers data corresponding to the specific exercises in the Component.
Pre-conditions	Hardware must be connected and running. Software must be running. Have the system at the start of a test component in practice mode or test mode.
Triggers	Click the “Start Component” button.
Course of Events	1. The current component of the test will start. 2. Patient data is collected and analyzed. 3. The component runs until it is complete, unless the “End Component” , “Stop Test” or “Reset Component” buttons are pressed .
Comments	Used to start the testing for the current component. The testing for each component will not start until the Therapist clicks the “Start Component”.

End Component	
Actors	Physical Therapist
Description	Stop the currently running component of the test and display results.
Data	Stores the data that was gathered for the section of the component completed.
Pre-conditions	Hardware must be connected and running. Software must be running. Must be executing one of the four components of the test.
Triggers	Click the “End Component” button.
Course of Events	1. The component is stopped and data is displayed for the portion of the component completed. 2. Any portion of the component that the patient has not completed is scored as a “0”, and the component is marked as “incomplete”. 3. The user then has the ability to stop the entire test, or move on to the next component of the test.
Comments	Used when the patient cannot complete the current component.

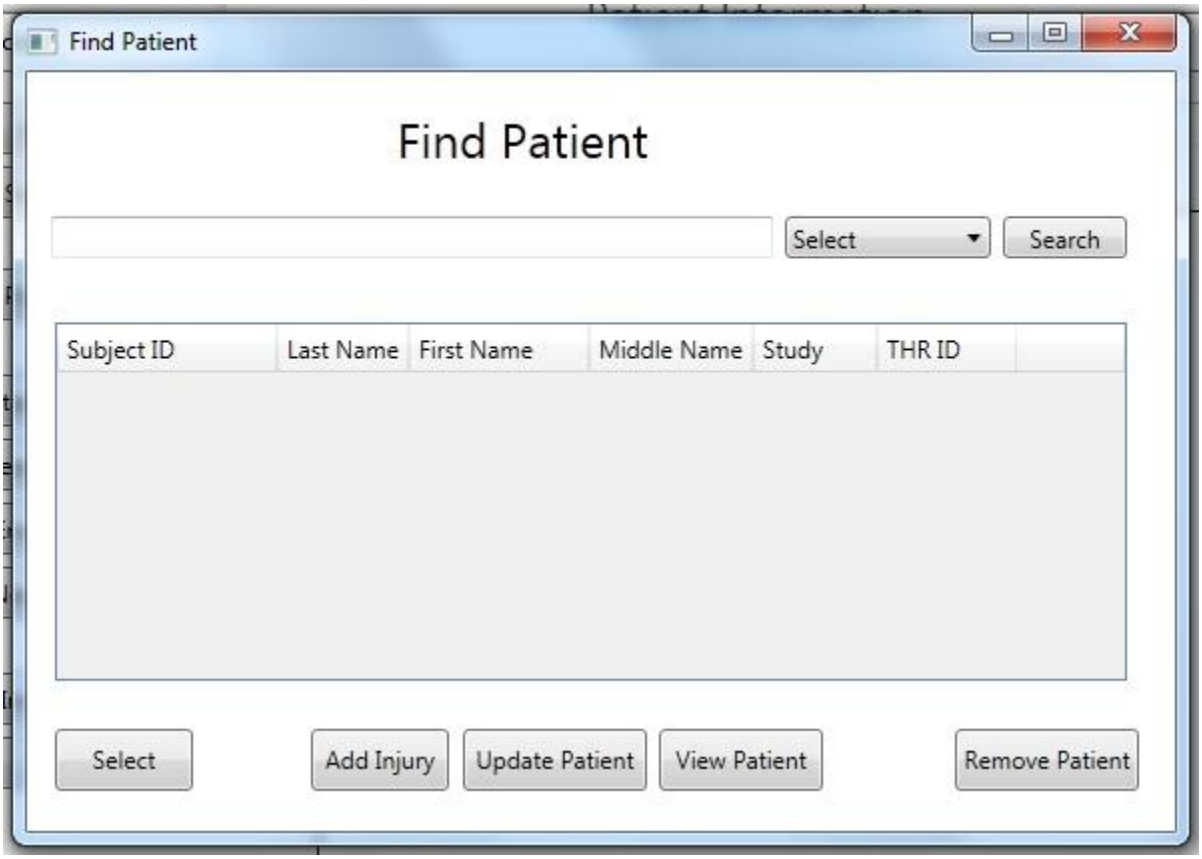
Reset Component	
Actors	Physical Therapist
Description	Allows the therapist to restart a component
Data	Reset all data for current component.
Pre-conditions	Hardware must be connected and running. Software must be running. One component of the test must be running.
Triggers	Press “Reset Component”
Course of Events	1. All test data collected will be deleted. 2. Program goes back to the pre-component conditions for the last component attempted.
Comments	This functionality will be rarely used, but from time to time patients may need more clarification on the exercise, or there may be other, unforeseen complications that occur at the start of a component that requires the therapist to end the component, make a correction, and then restart the component.

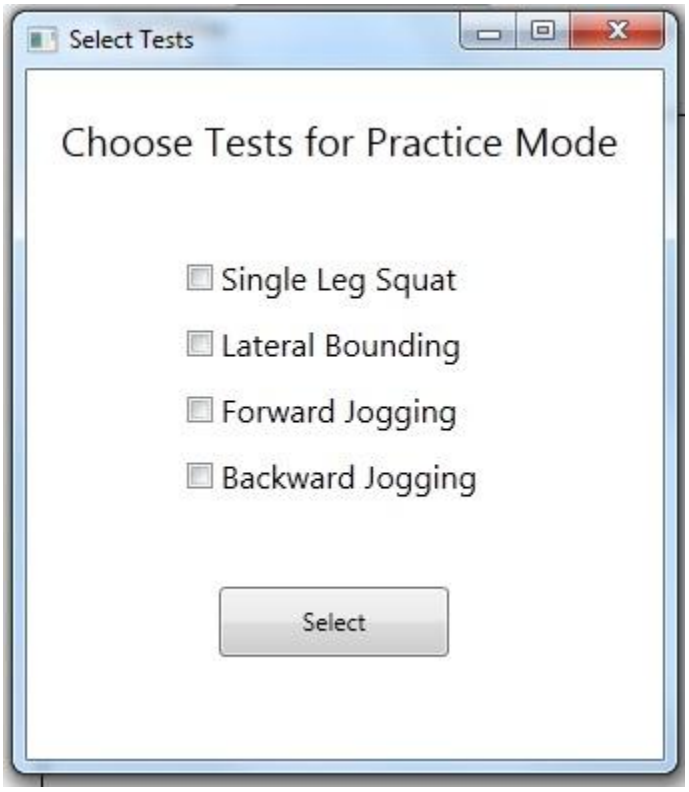
Stop Test	
Actors	Physical Therapist
Description	Will stop the test currently being administered.
Data	All acquired data and scores during the test will be stored in the database. Components of the test not completed will be labeled as incomplete.
Pre-conditions	Hardware must be connected and running. Software must be running. The program must be running a test or Practice Mode
Triggers	Click the “Stop Test” button.
Course of Events	1. The program will stop running the test. 2. The test results will be saved to the database.
Comments	This is used if the patient cannot complete the test or if the therapist determines that the test needs to be stopped. This process also automatically occurs when the test has been run to completion.

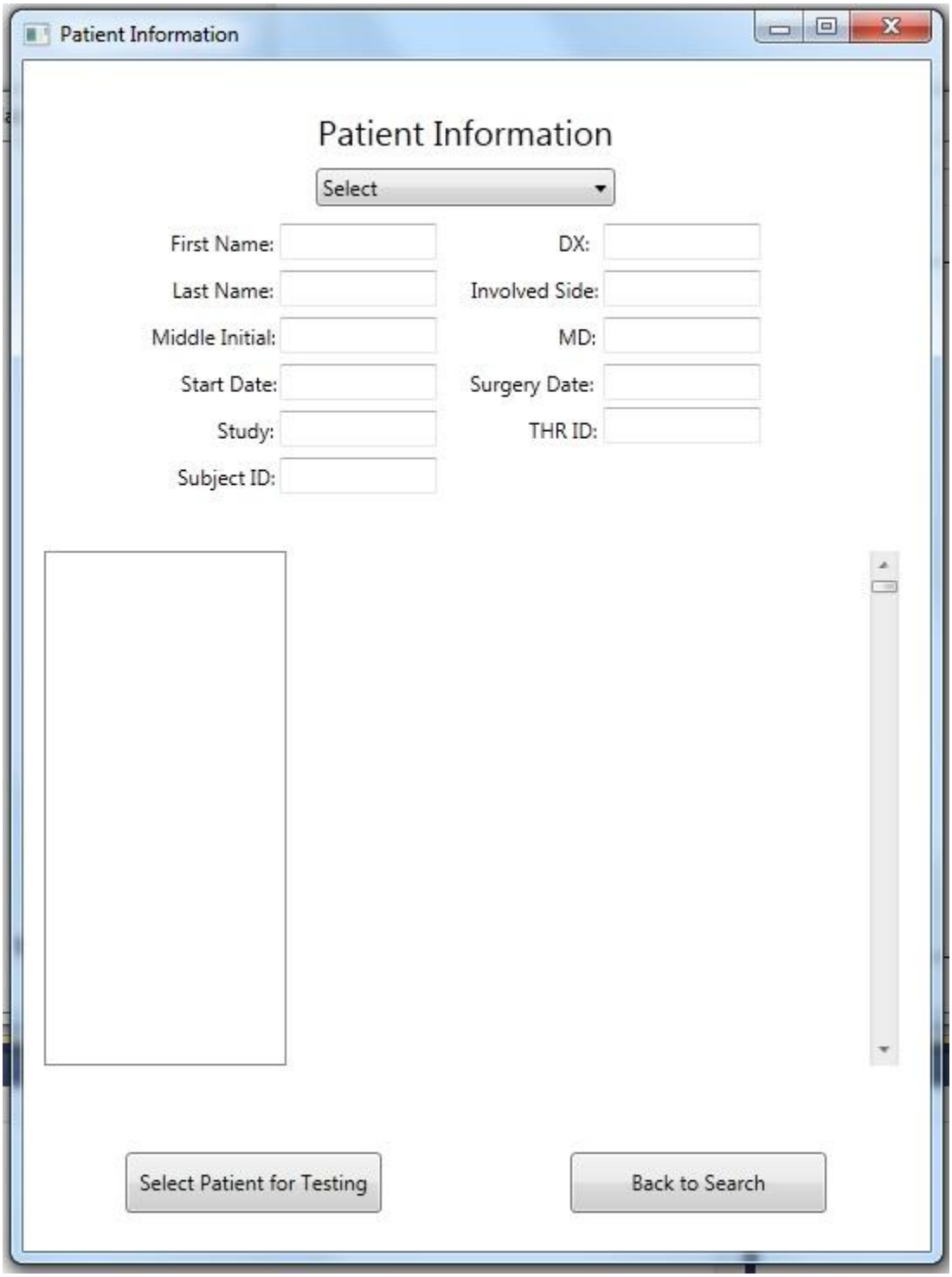
9.3. Appendix D: Prototype

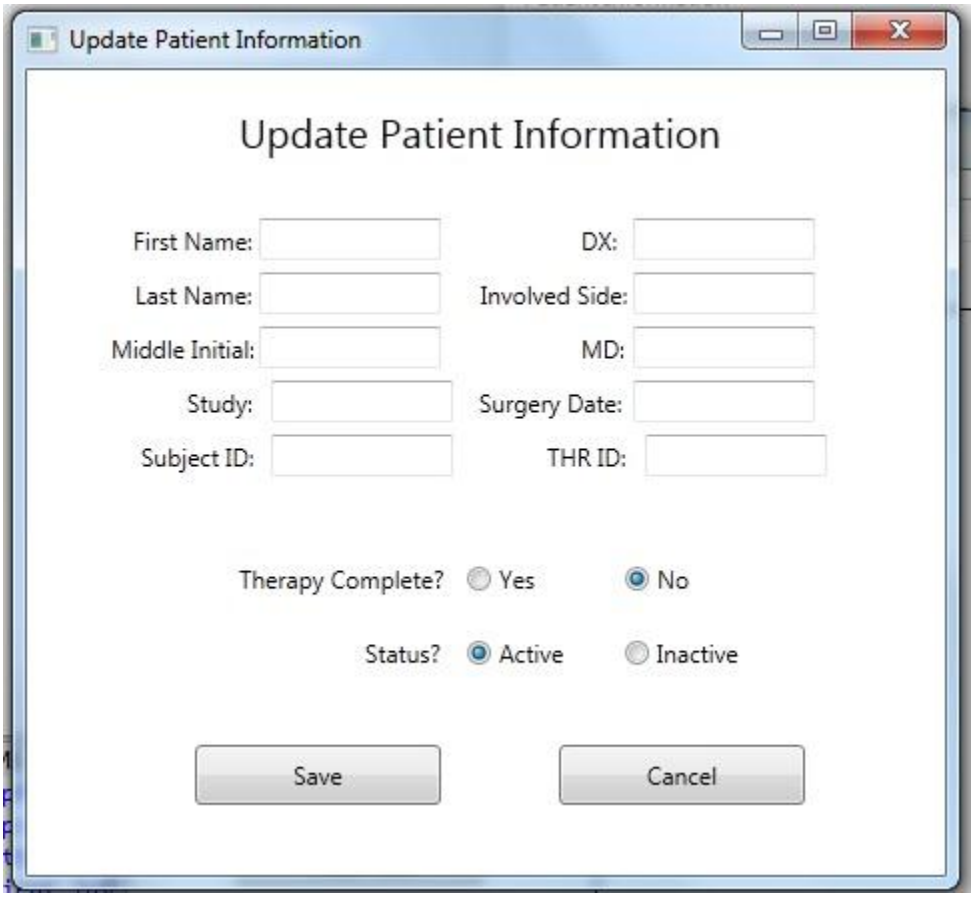


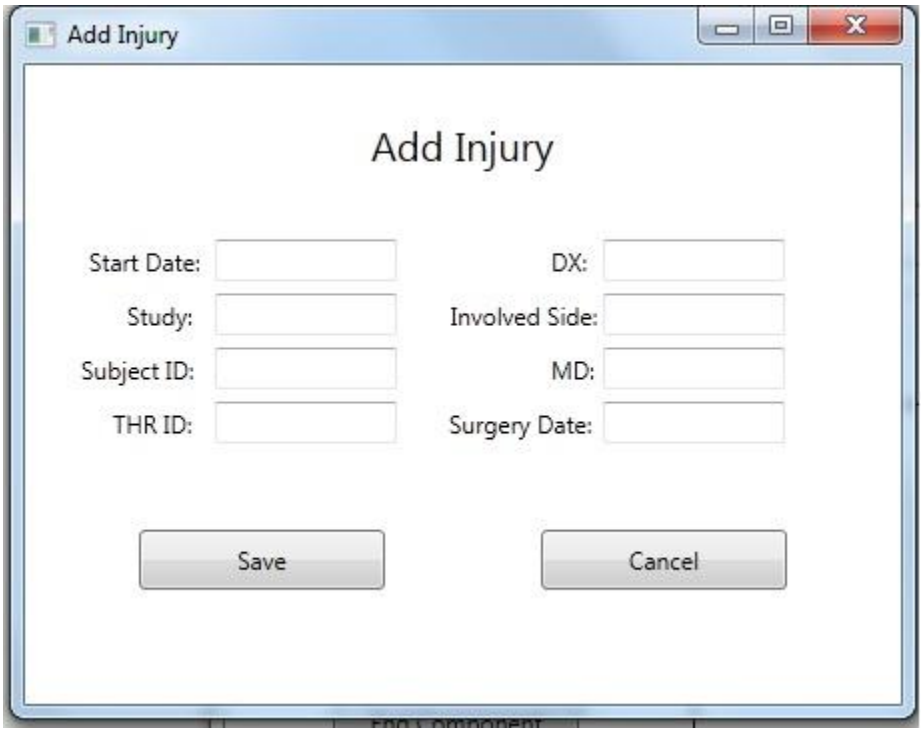
New Patient
New Patient Information
First Name:
Last Name:
Middle Initial:
Start Date:
Study:
Subject ID:
DX:
Involved Side:
MD:
Surgery Date:
THR ID:
Save Information
Cancel

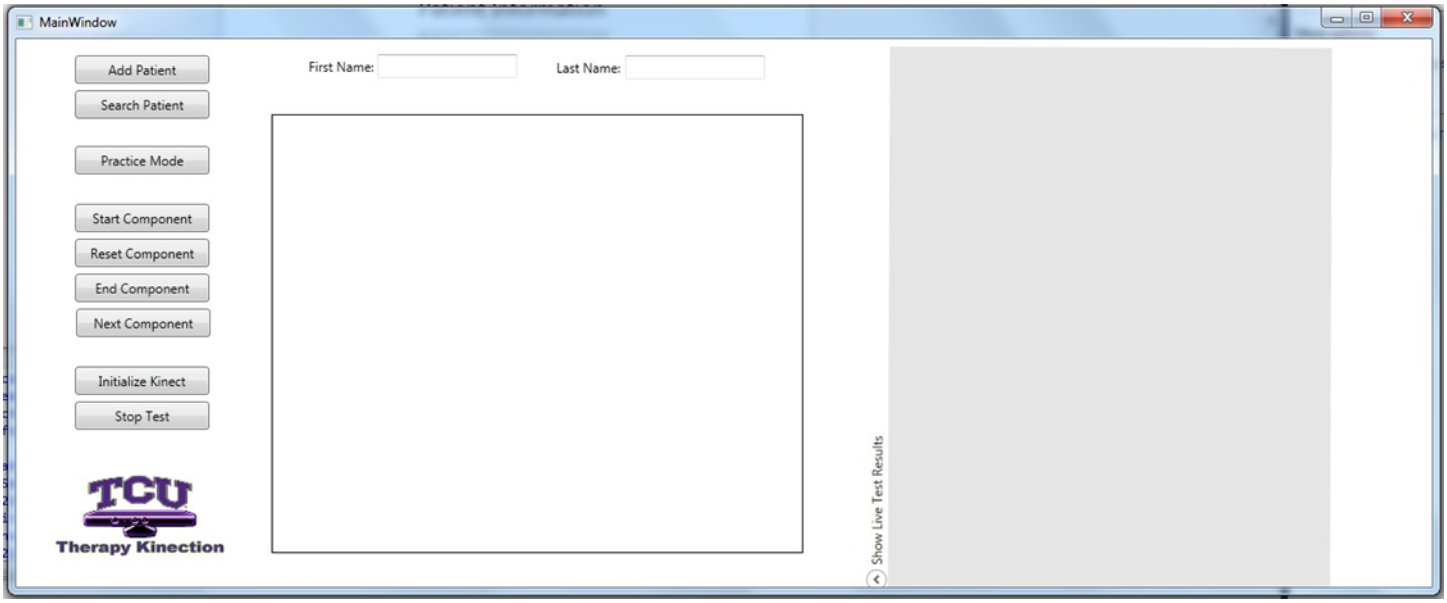

Find Patient
Find Patient
Select
Search
Subject ID
Last Name
First Name
Middle Name
Study
THR ID
Select
Add Injury
Update Patient
View Patient
Remove Patient


Select Tests
Choose Tests for Practice Mode
Single Leg Squat
Lateral Bounding
Forward Jogging
Backward Jogging
Select


Patient Information
Patient Information
Select
First Name:
Last Name:
Middle Initial:
Start Date:
Study:
Subject ID:
DX:
Involved Side:
MD:
Surgery Date:
THR ID:
Select Patient for Testing
Back to Search


Update Patient Information
Update Patient Information
First Name:
Last Name:
Middle Initial:
Study:
Subject ID:
DX:
Involved Side:
MD:
Surgery Date:
THR ID:
Therapy Complete?
Yes
No
Status?
Active
Inactive
Save
Cancel


Add Injury
Add Injury
Start Date:
Study:
Subject ID:
THR ID:
DX:
Involved Side:
MD:
Surgery Date:
Save
Cancel


MainWindow
Add Patient
Search Patient
Practice Mode
Start Component
Reset Component
End Component
Next Component
Initialize Kinect
Stop Test
First Name:
Last Name:
Therapy Kinection
Show Live Test Results