Project: Detecting Flexibility and Toning exercises using Computer Vision

Introduction

Using computer vision and the kinect sensor ,the human skeleton may be detected by algorithm detection, neural networks,etc, may be determining gestures, body position and poses.

Problem Statement

- Perform flexibility and toning exercises to prevent bone, joint and muscle diseases.

Objetive

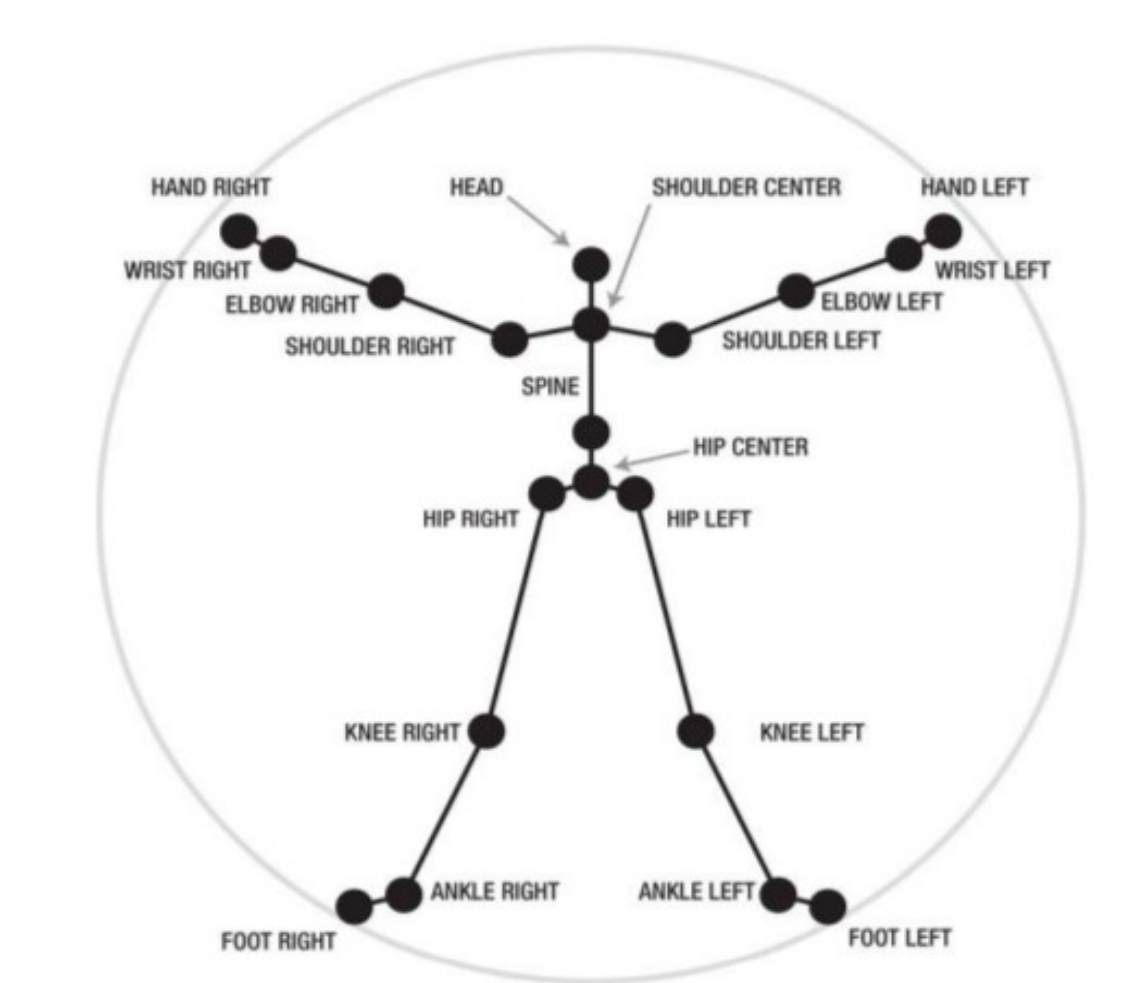
- Detecting to body joints using kinect sensor.
- Detecting to position, gestures, poses based on flexibility and toning exercises using algorithms detection.
- Implement workout using computer vision

Justification

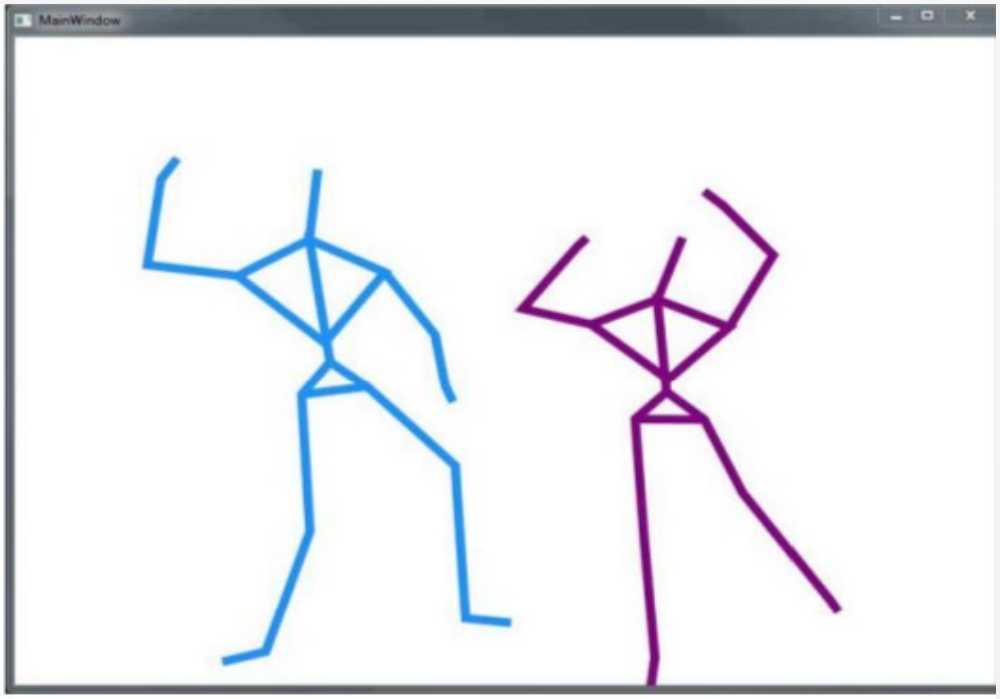
Using computer vision with the kinect sensor, algorithms detection , neural networks, etc, by detecting to flexibility exercises and body toning to preventing diseases associated with joint, bone and muscle.

Metodology

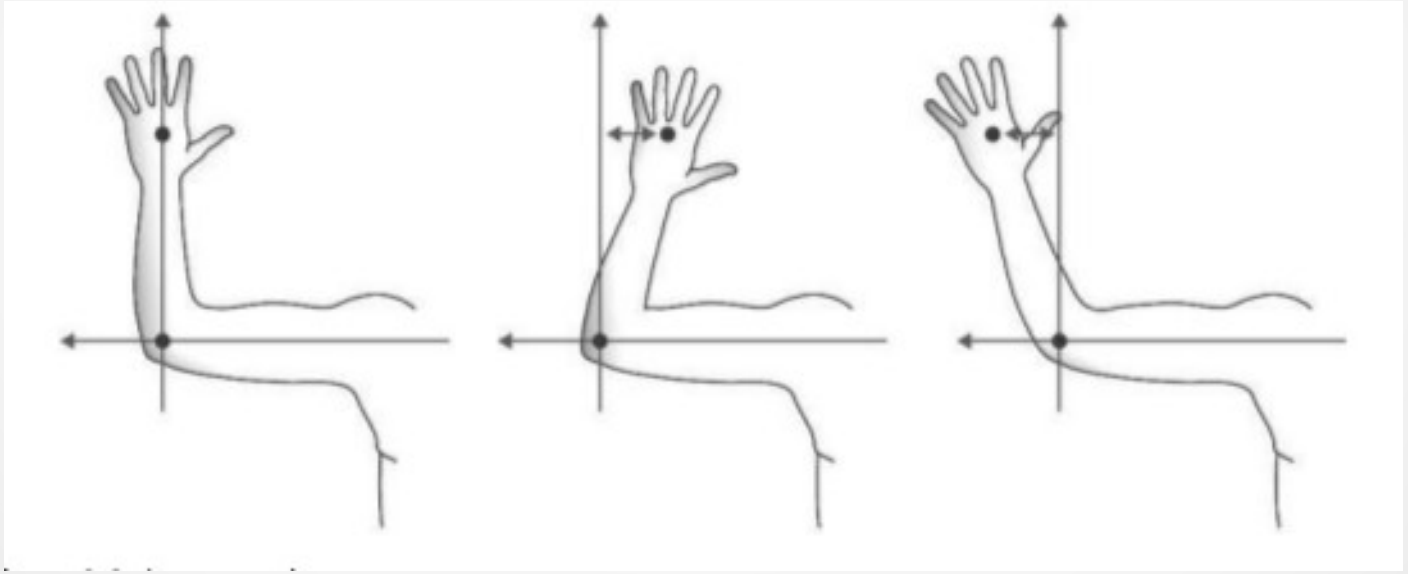
- Detect joints of the body with kinect



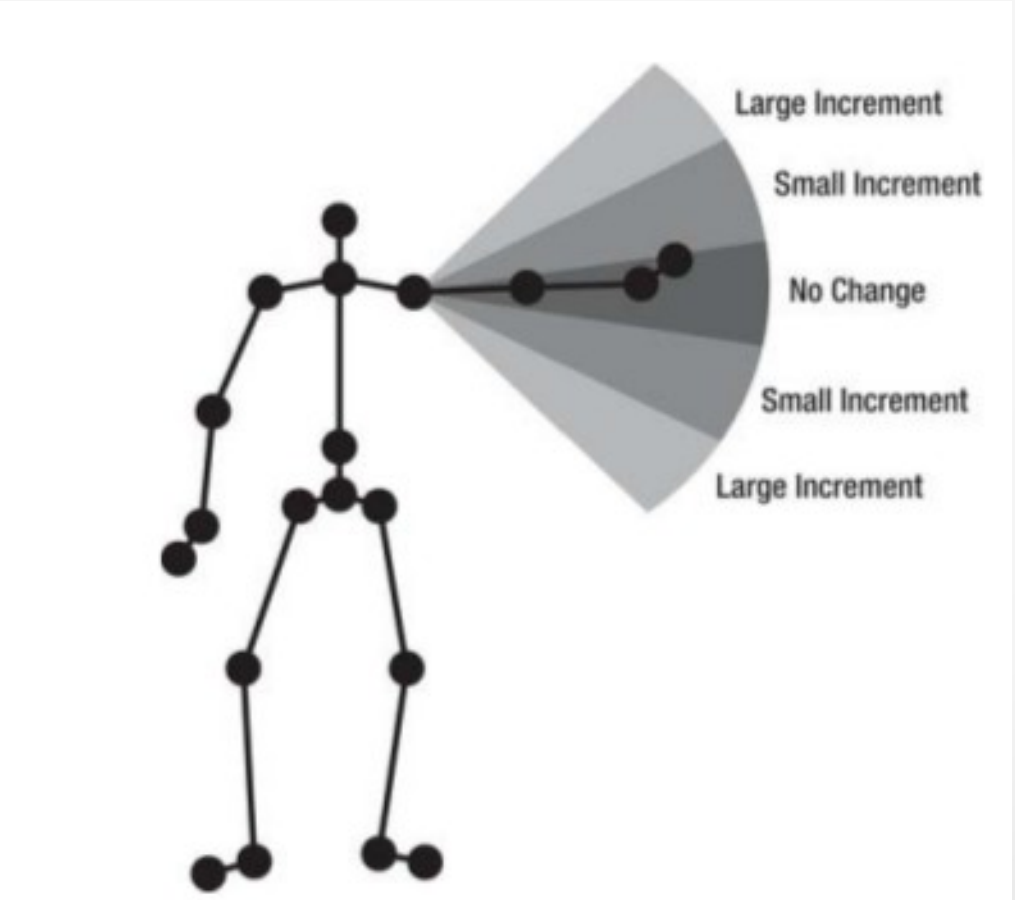
- Show joints



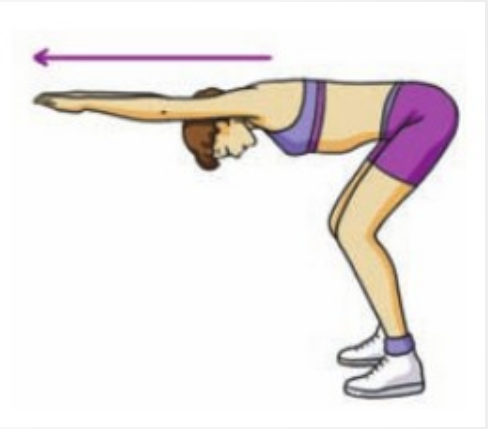
- Gestures



- Range of motion



Exercise detecting



Tools

- Microsoft Visual Studio
- SDK Kinect
- Programming Language C#
- Sensor Kinect

Schedule

	Activities	Date
Define Project		
	Investigation	
		Week No.3 February
	Get kinect sensor	Week No.4 February
	Presentation Project	Week No. 1 March
Development		
	Detect joints	Week No. 2 March
	Calculate angles, positions	Week No. 3 March
	Implementing detection algorithms	Week No. 4 March
	Implement more advanced algorithms	Week No. 1 April
	Interface design	Wekk No. 2 April
	Implement more features	Wekk No. 3-4 April
Test		
	Test	Week No. 1 May
	Documentation	Week No. 2 May
Delivery		
	Delivery Project	****

Bibliography

Raisin, Lydie. (2003). 120 ejercicios para un cuerpo flexible y tonificado. Barcelona: Paidotribo.

Jarrett Webb, James Ashley. (2012). Beginning Kinect Programming with the Microsoft Kinect SDK. New York: Apress.