# BSc Project Proposal

Media Engineering and Technology
German University in Cairo
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## JiuJutsu Training Kinect Application

Proposed By: El-Hassan Bilal Makled
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Proposed To: Assoc. Prof. Georg Jung

Motion and gesture input systems are spreading in software development during the past few years. Some examples could be Microsoft's Kinect, Nintendo's Wii, or Sony's Move. The spread of this application ranged to affect video games and fitness programs. However, none of the fitness programs focused on actual contact sports techniques. In this project, we will use Microsoft Kinect to create an application that will take a group of JiuJutsu (a form of martial arts) moves as an input during a practice session, and compares them to a library of moves that are used as reference to calculate the delta. The project will also either measure or receive the value of the impact of the recognized move depending on the situation of the practice. The impact's value will be received through a sensor equipped Thai-pad, a thick pad that covers the arms of the trainer so that the trainee would punch or kick for practice, that will measure the impact and send it as a parameter to the program. Another way would be used in case of the absence of the sensor equipped Thai-pads however, the presence of any other Thai pad (not sensor equipped) is important. The Kinect will be used to measure the sound of the impact and from this the impact will be calculated and used instead. In the end the program will associate the technique executed by the user with its respective impact and compare it with previous executions of the technique and from all previously collected data of techniques and their impacts, the program will choose the best execution of the technique to be used as the reference for future executions.

### Tasks

- Creating the libarary for the moves to be used as a reference.
- Calculating the delta between the execution and the reference move.

- Calculating the impact using the sound produced from the technique.