Title of the bachelor thesis:
Balance and motor skills training through biofeedback. *The Synapsys Posturography System and Nintendo Wii utilization in therapy of patients after brain injury.*

**ABSTRACT**

The main theme of this thesis is the use of modern gaming console, the Nintendo Wii in therapy of patients after a brain injury. The work focuses mainly on training of postural stability platform with the Wii FitBalance Board. The author objectifies the results of therapy using posturography with the new equipment Synapsys Posturography System.

The theoretical part describes the postural motor, its management, ontogenesis, but also its failure and the most common causes of these disorders. The author pays particular attention to the work mechanisms of injury and damage to the brain, which has a direct impact on the perception of body position and movement. A separate chapter summarizes the general knowledge about stroke and its effects and explains main problems of instrumentation in physiotherapy.

The practical implementation includes the description of the therapy with the Nintendo game console, including the input and output examination through the new device Synapsys Posturography System.

The main task in this section was an attempt to clear and meaningful interpretation of the objective posturographic results as a positive therapeutic effect on the development of stability and motor skills.

**Key words:**
Brain injury, Nintendo Wii Fit Plus, Balance Board, Synapsys Posturography System, postural stability, biofeedback