# sparcoNET – SPort, heAlth and ReCreatiOn NETwork Application developed for Microsoft's Imagine Cup competition

**Denis Špelič**

Laboratory for Geometric Modelling and Multimedia Algorithms
Faculty of Electrical Engineering and Computer Science, University of Maribor,
SI-2000 Maribor, Slovenia
http://gemma.uni-mb.si/

**Abstract**: sparcoNET is a system that allows simple capture and recognition of physical movements of human body. The system consists of two parts - our client application called sparcoNET Client and an internet site called sparcoCOMMNUITY. We developed a technology named sparcoANIMÉ that enables the recognition of shapes and movements of a person standing in front of a computer, with help of a webcam. This gives us new recreational possibilities and opens up new ways of using our computers. sparcoANIMÉ can be used in two ways. One way is to use control points that are placed in the video window. Events are triggered by touching these control points. Another way is to recognize physical movements. Along with sparcoANIMÉ we also developed a streaming component and voice control component. All of these are combined in the sparcoNET Client.We developed an interface which handles extensions for our client. It allows thrid party developers to take advantage of our core components and is called sparcoEXTEND.sparcoNET Client can be used in a number of ways, but we concentrated on making our lives healthier; we used it for rehabilitation, recreation and entertainment.

**Keywords: Imagine cup, web cam, segmentation, streaming, recreation, rehabilitation**