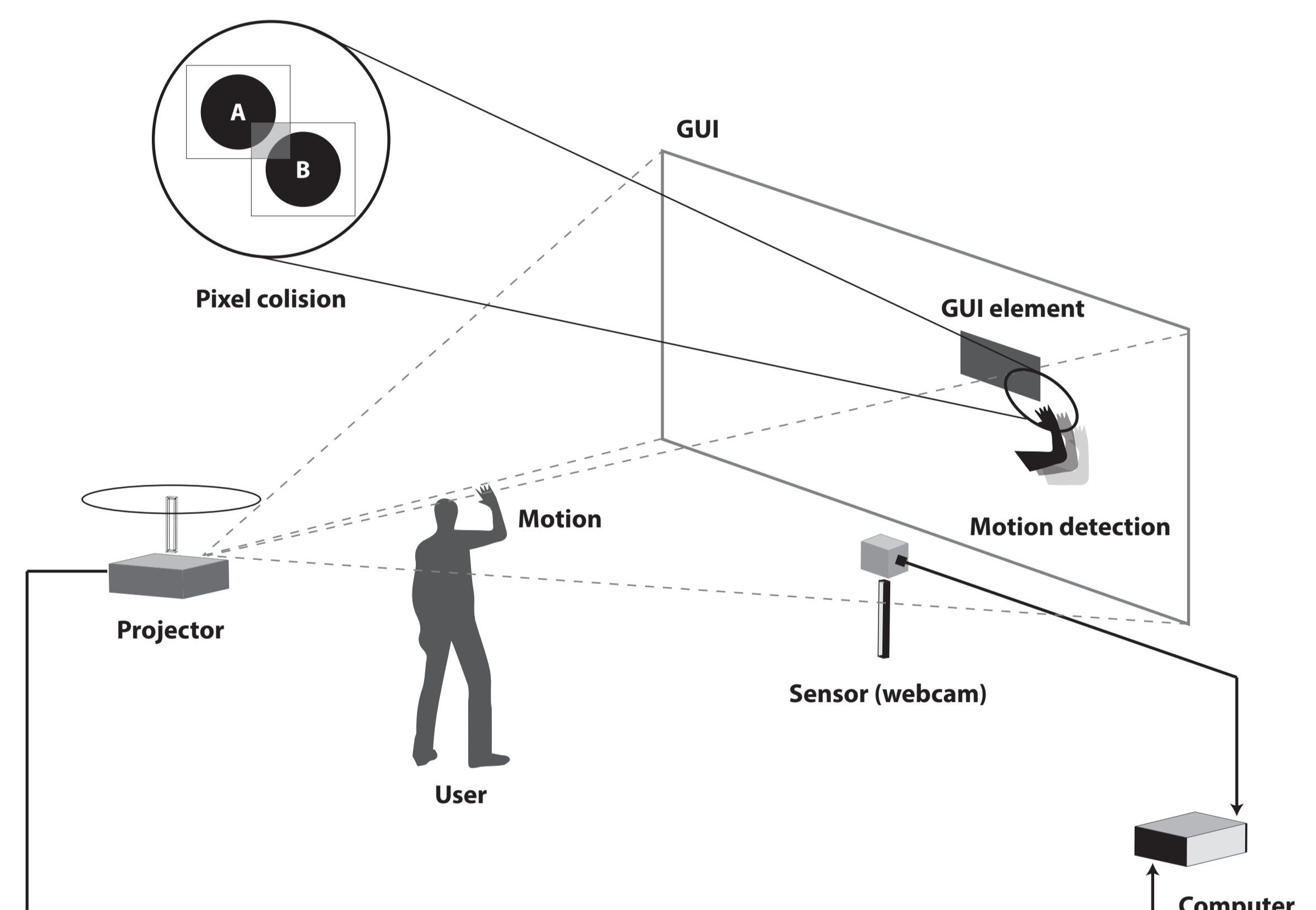
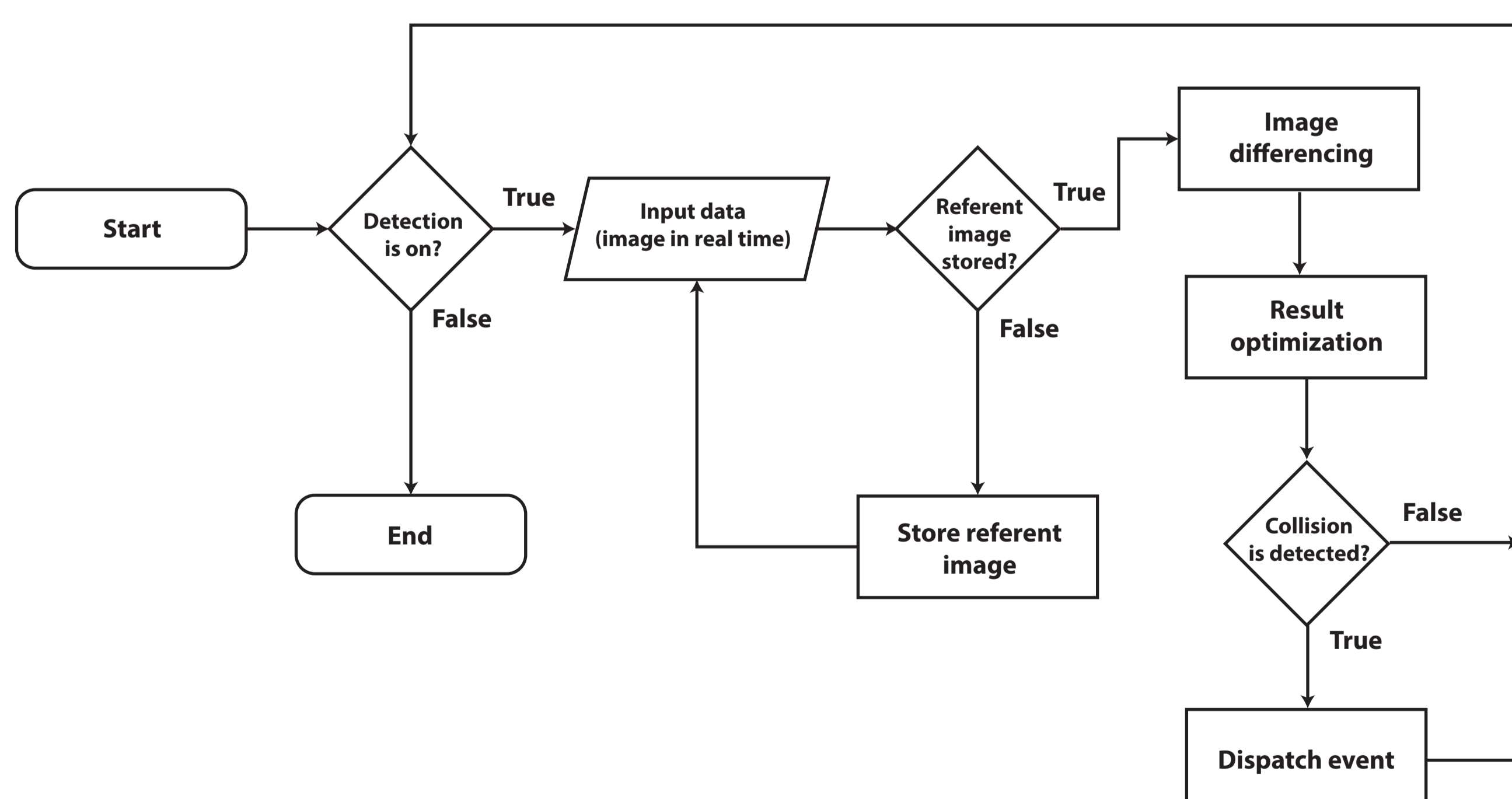


Description

Detection method consists of a mathematic model for differencing moving elements from static background image (from standard webcam) and makes the interaction of virtual and real objects possible. The procedure repeats 30 times per second and allows instant multiuser interaction with the computer. System sensitivity can be optimized and adapted to different ambient conditions controlling the tolerance to change of the light intensity, contrast, and brightness. Interaction sensitivity is controlled by changing the minimum and maximum size of the active object.



Human-computer interaction



Algorithm flow chart

Advantages of the innovation

Innovation provides instant (calibration process is not needed before using) multiuser interaction with the computer. It is not limited to the number of active users or the size of the interaction space. This method can detect motion and interaction via a standard webcam in real-time. The method allows using cheap and available devices (for example, standard web cameras, screens or projectors) for motion controlling and opens new possibilities in the use of digital systems.