INTERACTIVE CONTROL WITH MOBILE PHONE

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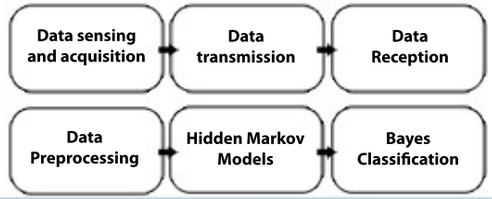
MOTIVATION AND OBJECTIVE:

Utilization of mobile phones for controlling personal computers is an interesting research and application area of the software development.

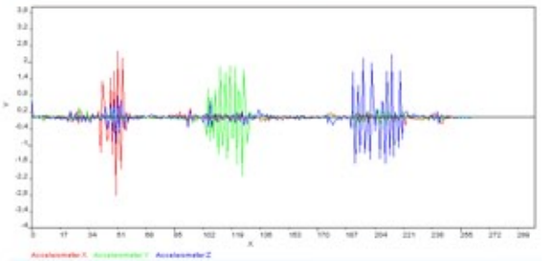
In this respect, wireless transmission technologies such as Bluetooth, which enable this way of communication, play the key role.

The main objective of presented work is to create a client-server based application with ability to provide an interactive way of controlling PC with mobile phone via Bluetooth technology, with the emphasis on control through built-in 3D accelerometer capabilities that enable controlling by phone movements.

TRAINING AND RECOGNITION OF MODEL GESTURES:

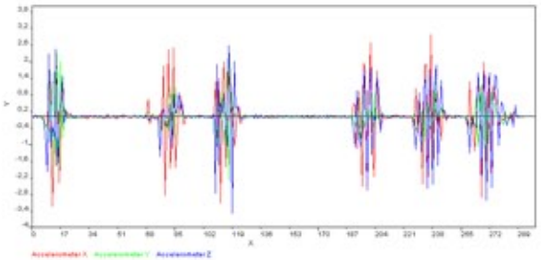


Control your computer via mobile phone movements!



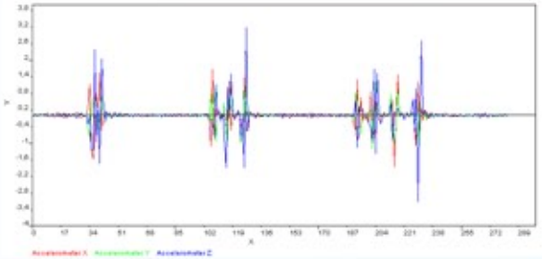
Recorded difference gestures - rapid movements in direction of X- Y-and Z- axis

Export/import your actions and gestures as XML files!



Gestures of rapid swing movement - performed once, two times shortly afterwards and three times shortly afterwards

Control your mouse via movements!



Gestures movements of shape "drawing" - circle, triangle and rectangle

Teach it a set of your own movements that it can recognize!

TYPES OF ACTIONS:

Keyboard actions:
• virtual keyboards events

System actions:
• simply executors of processes and scripts

Empty actions:
• idle time periods

See behavior of captured data in chart!

Your actions will be executed after gesture is recognized!

KIND OF GESTURES:

Model gestures :
• can be trained and recognized
• recording training and recognition sequences via phone movements

Differential gestures:
• rapid repetitive movements causing high value differences classified as gestures

Button gestures:
• controlling via pressing buttons on mobile phone

Define your own actions which the computer will execute!

CURRENT STATE AND FUTURE PLANS:

Currently all major functional parts are implemented . They can of course be further developed and improved. Fancier user interface as well as support for wider range of devices may follow.

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