

an acoustic sensor, for receiving an acoustic stimulus resulting from user action, in an auditory domain, and for generating a second signal representing the acoustic stimulus; and

a synchronizer, coupled to receive the first signal from the optical sensor and the second signal from the acoustic sensor, for determining whether the received signals indicate substantial simultaneity of the corresponding user action, and responsive to the determination, classifying the signals as associated with a single user input event.

32. The system of claim 31, wherein the user action comprises at least one keystroke.

33. The system of claim 31, wherein the user action comprises at least one physical gesture.

34. The system of claim 31, further comprising:

a virtual keyboard, positioned to guide user actions to result in stimuli detectable by the optical and acoustic sensors;

wherein a user action comprises a key press on the virtual keyboard.

35. The system of claim 31, wherein the optical sensor comprises a camera.

36. The system of claim 31, wherein the acoustic sensor comprises a transducer.

37. The system of claim 31, wherein the acoustic sensor generates at least one waveform signal representing the second stimulus, the system further comprising:

a processor, coupled to the synchronizer, for comparing the at least one waveform signal with at least one predetermined waveform sample to determining occurrence and time of at least one auditory event.

38. The system of claim 31, wherein the acoustic sensor generates at least one waveform intensity value representing the second stimulus, the system further comprising:

a processor, coupled to the synchronizer, for comparing the at least one waveform intensity value with at least one predetermined threshold value to determining occurrence and time of at least one auditory event.

39. The system of claim 31, further comprising:

a surface for receiving a user's taps;

wherein the acoustic sensor receives an acoustic stimulus representing the user's taps on the surface.

40. The system of claim 31, further comprising:

a processor, coupled to the synchronizer, for, responsive to the stimuli being classified as associated with a single user input event, transmitting a command associated with the user input event.

41. The system of claim 31, wherein the processor:

determines a metric measuring relative force of the user action; and

generates a parameter for the command based on the determined force metric.

42. The system of claim 31, further comprising:

a processor, coupled to the synchronizer, for:

for each received stimulus, determining a probability that the stimulus represents an intended user action; and

combining the determined probabilities to determine an overall probability that the received stimuli collectively represent an intended user action.

43. The system of claim 31, wherein the synchronizer:

for each received stimulus, determines a time for the corresponding user action; and

compares the determined time to determine whether the optical and acoustic stimuli indicate substantial simultaneity of the corresponding user action.

44. The system of claim 31, wherein the synchronizer:

for each received stimulus, reads a time stamp indicating a time for the corresponding user action; and

compares the read time stamps to determine whether the optical and acoustic stimuli indicate substantial simultaneity of the corresponding user action.

45. The system of claim 31, further comprising:

a processor, coupled to the synchronizer, for identifying an intended user action, the processor comprising:

a visual feature computation module, for generating a vector of visual features based on the received optical stimulus;

an acoustic feature computation module, for generating a vector of acoustic features based on the received acoustic stimulus;

an action list containing descriptors of a plurality of user actions; and

a recognition function, coupled to the feature computation modules and to the action list, for comparing the generated vectors to the user action descriptors.

46. The system of claim 31, wherein the user input event corresponds to input for a device selected from the group consisting of:

a computer;

a handheld computer;

a personal digital assistant;

a musical instrument; and

a remote control.

47. A computer program product for classifying an input event, the computer program product comprising:

a computer readable medium; and

computer program instructions, encoded on the medium, for controlling a processor to perform the operations of:

receiving, at a visual sensor, a first stimulus resulting from user action, in a visual domain;

receiving, at an auditory sensor, a second stimulus resulting from user action, in an auditory domain; and

responsive to the first and second stimuli indicating substantial simultaneity of the corresponding user action, classifying the stimuli as associated with a single user input event.