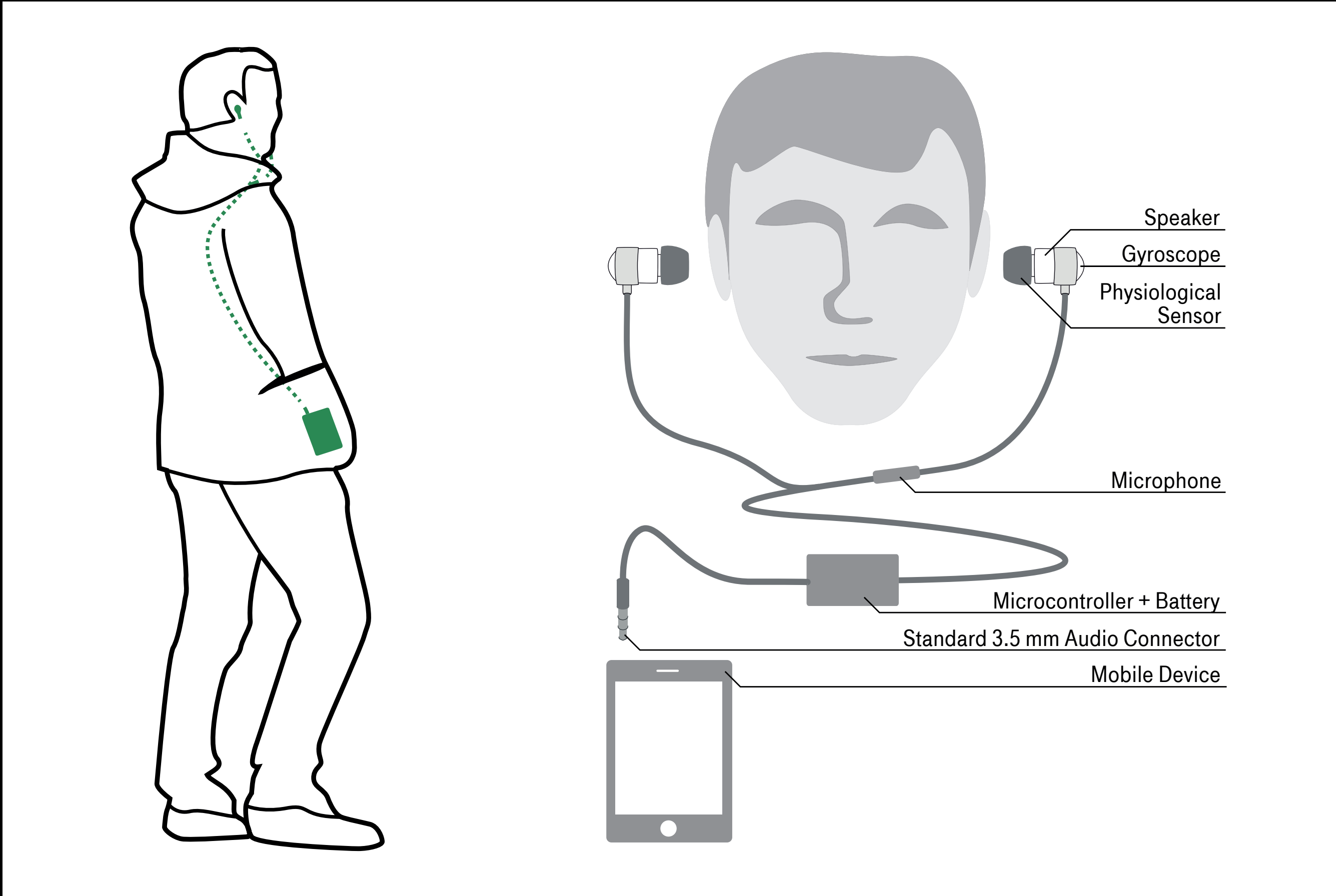
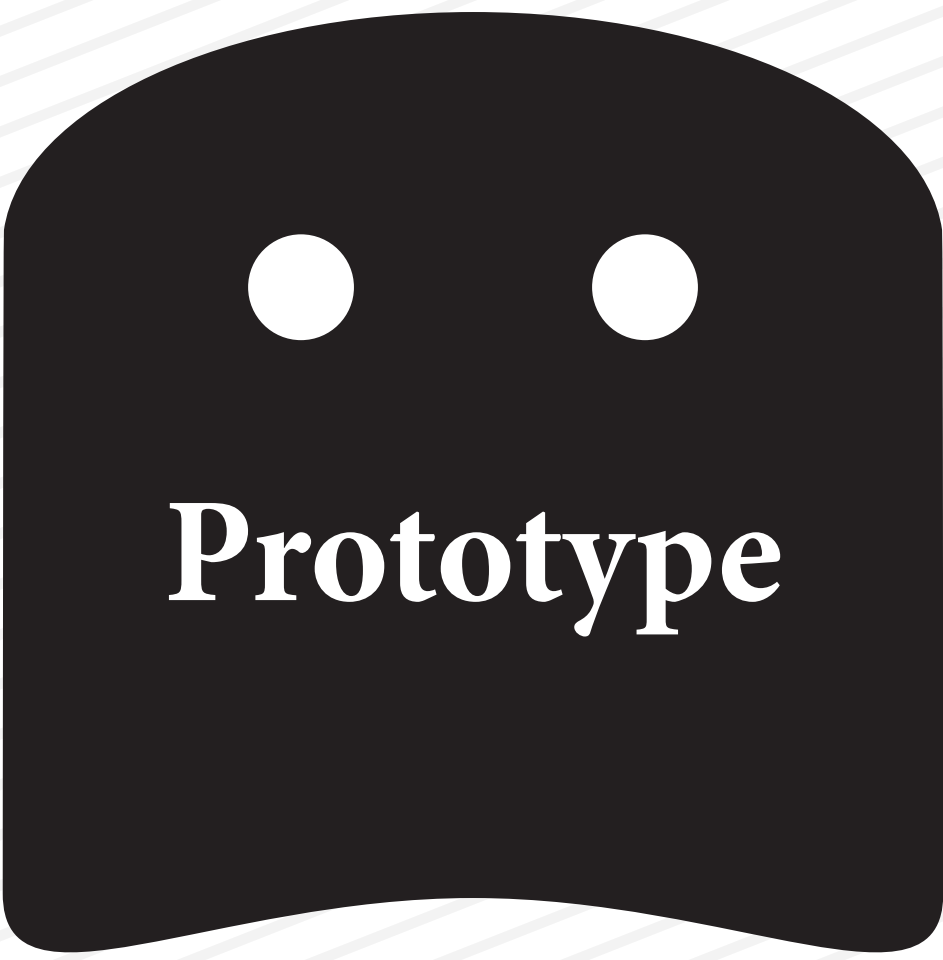


InEar BioFeedController: A Headset For Hands-Free And Eyes-Free Interaction With Mobile Devices

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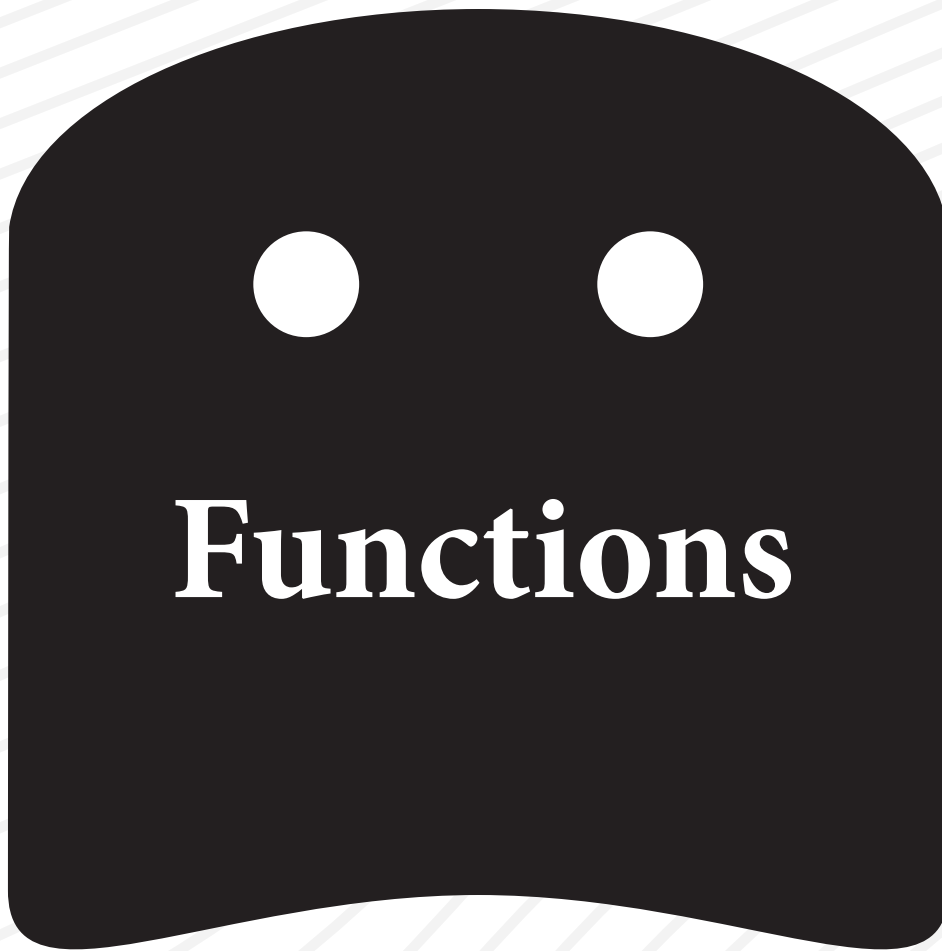
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The prototype called “InEar BioFeedController” overcomes the general problem of controlling mobile devices while walking and in hands-busy or hands-lazy situations. Controllable functionalities include switching music (on/off/next/previous) and answering incoming phone calls (accept/decline/mute).

dangerous situations while involved in traffic as a pedestrian

7



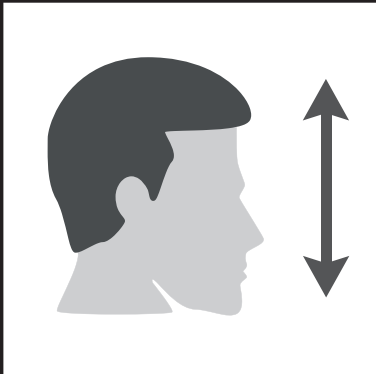
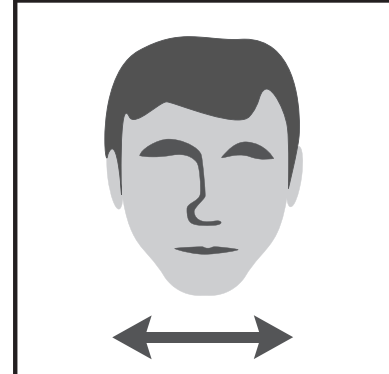
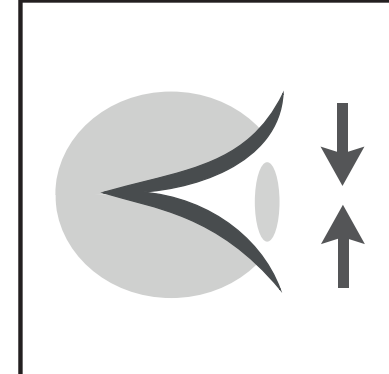
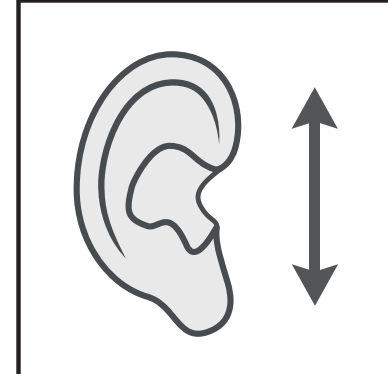
Functions

mobile device is in a poorly accessible location such as the inside pocket of a jacket

2

full attention devoted to critical working tasks

3

PHYSICAL INPUT			
HEAD NOD	HEAD SHAKE	EYE WINK	EAR WIGGLE
			
GENERAL MEANING			
YES	NO	SKIP	
INCOMING PHONE CALL			
ACCEPT	DECLINE	MUTE	
MUSIC PLAYER CONTROL			
REPEAT	NEXT	PAUSE/PLAY	

The decision was made to use intuitive head gestures like nodding for “YES” and head shaking for “NO.” Both gestures have to be executed in an exaggerated manner to avoid misinterpretation. A third action, wiggling ears or winking eyes, allows users to “SKIP” queries.

holding a child’s hand or pushing a pram

5



3



8



4



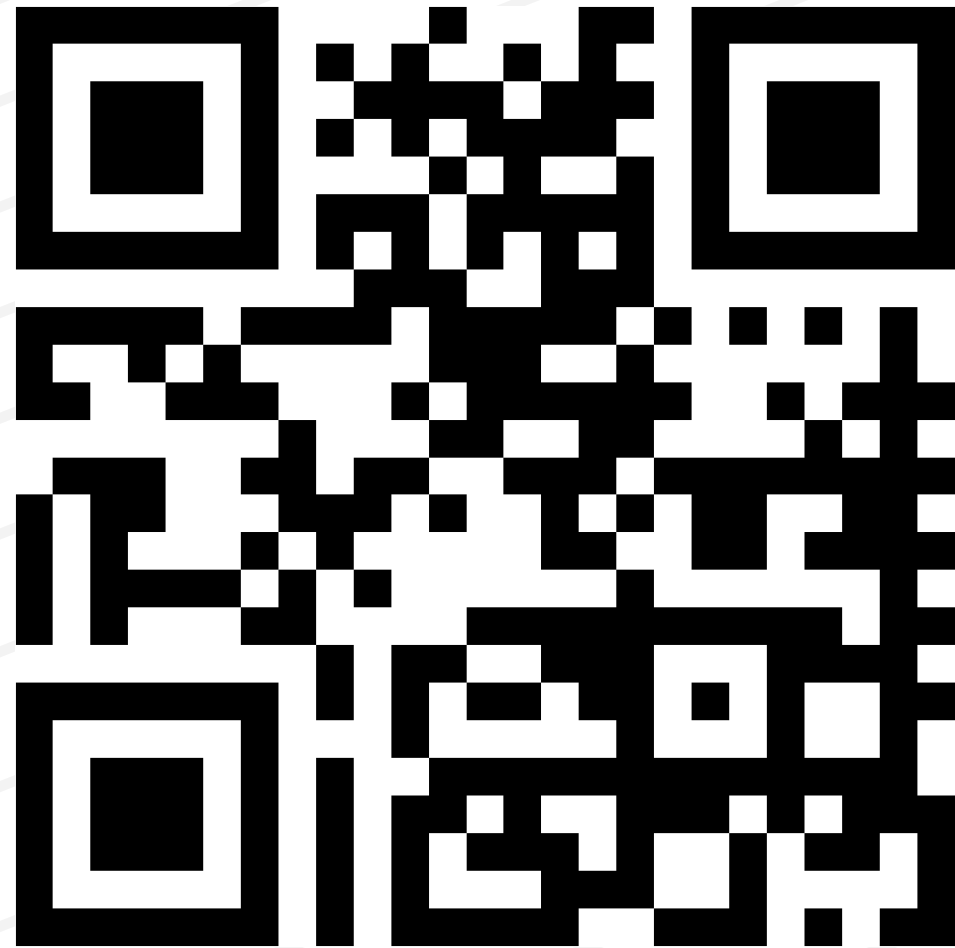
Use Cases



7



9



6

carrying bags

9

wearing gloves



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GET TO KNOW MORE ABOUT THE LMU MEDIA INFORMATICS AND HUMAN-MACHINE INTERACTION GROUPS VISIT: <http://www.medien.ifl.lmu.de>
MORE INFORMATION ABOUT THE PROJECT IS AVAILABLE ON: <http://www.inear.biofeedcontroller.com>