Smart Wristband: Pressure-Sensitive Wristband as Input Method for Smartwatch

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# ABSTRACT

## The main input methods for traditional smartwatches on the market are display touch screens and physical buttons. However, due to the limited display screen size of smartwatch, interaction with them is limited. Our research aims to enhance users experience with smartwatches and increase efficiency of interaction by implementing easy-to-use input method. We are proposing to extend interaction surface of smartwatch by using the wristband as an input tool. While no such method has been implemented commercially, there are several studies that research the possibility of extending interaction surfaces beyond the smartwatch surface and buttons such as by using air-magnet-pen. There are a few studies that use the wristband as an input method, but they either focused on developing it for text entry only or the wristband was only sensitive on the edges where the wristband touches the watch. We are studying the possibility of making the entire wristband sensitive so we can use the whole wristband as an input surface for multiple tasks.

[Add type of sensors used]

[Research Question]

We will investigate if touch input on the back of a smartwatch wristband is more convenient for users, and at least as fast and accurate as normal touch input on a smartwatch screen. Our intuition is that touching the screen itself blocks the user's view of the content that they are interacting with. Moving the touch interaction off the screen will allow the user to see what's going while interacting with the device.

[TODO: significance and originality]

## Author Keywords

Smartwatch; wristband; input method, wearable.

## ACM Classification Keywords

# H.5.2. Information interfaces and presentation: User Interfaces – *input devices and strategies*.

# Related work

[Literature review goes here]

Serena:   
Ahn et al - BandSense: Pressure-sensitive Multitouch Interaction on a Wristband   
Funk et al - Using a Touch-Sensitive Wristband for Text Entry on Smartwatches   
  
Shamama:   
Harrison & Hudson - Abracadabra: Wireless, High Precision, and Unpowered Finger Input for Very Small Mobile Devices   
- and concluding paragraph   
  
Dina:   
Knibbe et al - Extending Interaction for Smart Watches: Enabling Bimanual Around Device Control   
- and abstract   
  
Gurleen:   
Lyons et al - Facet: A Multi-Segment Wrist-Worn System   
Perrault et al - WatchIt: Simple Gestures and Eyes-free Interaction for Wristwatches and Bracelets

[Lit review conclusion & how our research will relate]

# REFERENCES [needs formating]

1. Ahn et al - BandSense: Pressure-sensitive Multitouch Interaction on a Wristband
2. Funk et al - Using a Touch-Sensitive Wristband for Text Entry on Smartwatches
3. Harrison & Hudson - Abracadabra: Wireless, High Precision, and Unpowered Finger Input for Very Small Mobile Devices
4. Knibbe et al - Extending Interaction for Smart Watches: Enabling Bimanual Around Device Control
5. Lyons et al - Facet: A Multi-Segment Wrist-Worn System
6. Perrault et al - WatchIt: Simple Gestures and Eyes-free Interaction for Wristwatches and Bracelets