Go-Go Gadget
Smartwatch:
Open Source Forensic Tools & Methodologies for Wearable Devices
Research Aims

Provide an enhanced understanding of:

- Interaction between wearables and phones
- Probative evidence wearables contain
- Location of user data & artifacts storage
  - Standalone & Connected modes
- Process to acquire data directly or indirectly
Connectivity

- **Connected Mode**
  - Bluetooth & Wi-Fi
  - Pulls data from phone

- **Standalone Mode**
  - eSIM
  - Pulls data from network
Connecting to PC

TIZEN STUDIO
Device Manager

Select a connected device.

No connected devices.

- Reset Gear
- Wi-Fi networks
- Link speed
  - SDE Connected
  - SCAN
  - IP address
    - 192.168.0.74
  - FORGET

```
c:\tizen-studio\tools>sdb connect 192.168.43.169:26101
connecting to 192.168.43.169:26101 ...
```

```
c:\tizen-studio\tools>sdb devices
List of devices attached
192.168.43.169:26101 device
SM-R765A
```
Results

❖ Acquisition is equal, if not better than companion device
  • Opt directory
    ◦ Contains duplicates of most, if not all, user data files

❖ User Data Exclusions
  • Connected
    ◦ Some data local to phone: draft emails
    ◦ SMS, MMS, or Browser Activity when in this state
  • Standalone
    ◦ Deleted messages
    ◦ Browser Activity excludes typed queries
 Contributions

◊ Artifact Genome Project (AGP)

- Started by University of New Haven
- All identified novel artifacts submitted for reference

◊ Accessible at: [https://agp.newhaven.edu/](https://agp.newhaven.edu/)
Contributions

- Journal of Forensic Sciences (JFS) publication
  - https://doi.org/10.1111/1556-4029.14109

PAPER

DIGITAL & MULTIMEDIA SCIENCES

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Forensic Inspection of Sensitive User Data and Artifacts from Smartwatch Wearable Devices*†
GearGadget Demo

https://www.marshall.edu/cyber/geargadget/
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