Who I am?

Jozef Mlích

GREYCORTEX

Kuřim/Brno, Czech republic

✉️ jozef@mlich.cz
🌐 blog.mlich.cz
@Table: @jmlich@fosstodon.org
@: @jmlich:matrix.org
 commodo: @xmllich02
GitHub: github.com/jmlich/

June 13-15, 2024
Brno, Czech Republic

Call for Proposals
Submit your proposals by March 3, 2024.
What smartwatch you want?

- Zephyr ZSWatch
  https://www.pcbway.com/project/shareproject/ZSWatch_Open_Source_Smartwatch_4ca3bfc6.html

- Bangle.js 2
  https://banglejs.com/

- SQFMI Watchy
  https://watchy.sqfmi.com/

- AsteroidOS
  https://asteroidos.org/

- Pine64 PineTime
  https://wiki.pine64.org/wiki/PineTime
Specifications

- Nordic Semiconductor nRF52832 with 64 MHz ARM Cortex-M4F
- 64 KB RAM
- 512 KB ROM + 4 MB SPI Flash
- ST7789 Display (240x240, RGB 65K) + CST816S Touch Panel
- BMA421, HRS3300, Vibration motor
- BT 5.0 including BLE
- 180 mAh 3.8V LiPo
InfiniTime
Firmware for Pinetime smartwatch written in C++ and based on FreeRTOS

Wasp OS
A MicroPython based development environment for smart watches (including Pine64 PineTime)

Rust Riot
Rust on RIOT Firmware for PineTime Smart Watch with NimBLE and LVGL

GadgetBridge
Android App for Pebble, Mi Band, Amazfit Bip (and more) without the vendor’s closed source application and without the need to create an account and transmit any of your data to the vendor’s servers.

Amazfish
SailfishOS, Ubuntu Touch, Kirigami, Controls smartwatch companion app

Others
Siglo – gtk based companion app
ITD – go companion app
Watchmate – rust companion app
InfiniLink - iOS app
InfiniTime

Vision

InfiniTime is a community-built smartwatch firmware. It offers freedom and privacy advantages unavailable to users of proprietary wearable technology.

InfiniTime is not to be used for medical or other health tracking purposes.
Why you need a smartwatch?

**Health monitoring**
- Steps counter
- Heart rate
- Sleep

**Notifications**
- Phone calls
- Emails, Chats
- Alarms
- Calendars

**Activities**
- Weather forecast
- Music remote control
- Navigation
- Apps/Games (2, pong, calculator, QR/bar codes)
User initiates feature request; developers assess feasibility and user experience.

Debugging efficiency is a key advantage. It eliminates the need for firmware loading, saving valuable development time.

Certian features require direct interaction with the device, necessitating hands-on work. Debugging is limited but achievable via UART.

The companion app must be aligned with the new feature, ensuring a cohesive and functional ecosystem for the end user.
Simulator

11:37

SUN 8 OCT 2023
Amazfish Notifications

Pavel Kerék

Čeština řeč králů
Bluetooth low energy

General attribute profile
Battery life

- Full brightness - 27mA
- Minimum brightness - 8.77mA
- Display off - 1.75mA
- Slow advertising - 1.11mA
<table>
<thead>
<tr>
<th>Feature</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pairing</td>
<td>✓</td>
</tr>
<tr>
<td>Notifications</td>
<td>✓</td>
</tr>
<tr>
<td>Calls</td>
<td>✓</td>
</tr>
<tr>
<td>Settings</td>
<td>×</td>
</tr>
<tr>
<td>Alarms</td>
<td>×</td>
</tr>
<tr>
<td>Sync steps/Heart rate</td>
<td>✓</td>
</tr>
<tr>
<td>Sync Activities</td>
<td>×</td>
</tr>
<tr>
<td>Calendar sync</td>
<td>×</td>
</tr>
<tr>
<td>Firmware upload</td>
<td>✓</td>
</tr>
<tr>
<td>Battery status</td>
<td>✓</td>
</tr>
<tr>
<td>Navigation notifications</td>
<td>~</td>
</tr>
<tr>
<td>Music control</td>
<td>✓</td>
</tr>
<tr>
<td>Sync time</td>
<td>✓</td>
</tr>
<tr>
<td>Sync weather</td>
<td>✓</td>
</tr>
<tr>
<td>Gallery app</td>
<td>Desired</td>
</tr>
<tr>
<td>Remote (camera) control</td>
<td>Desired</td>
</tr>
<tr>
<td>OTP</td>
<td>Desired</td>
</tr>
</tbody>
</table>