Exploitable Results by Third Parties

15032 eWatch – Extensive Personal Monitoring and Watch Platform

Project details

<table>
<thead>
<tr>
<th>Project leader:</th>
<th>Isil Ozkan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email:</td>
<td><a href="mailto:Isil.ozkan@turkcell.com.tr">Isil.ozkan@turkcell.com.tr</a></td>
</tr>
<tr>
<td>Website:</td>
<td><a href="http://www.itea3-ewatch.com/">http://www.itea3-ewatch.com/</a></td>
</tr>
</tbody>
</table>
## Name: PPG2BP IP

<table>
<thead>
<tr>
<th>Input(s):</th>
<th>Main feature(s)</th>
<th>Output(s):</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Third party PPG sensor data annotated with blood pressure</td>
<td>▪ Deep learning framework to learn relation between PPG and BP ▪ Server side calculations</td>
<td>▪ Model to estimate blood pressure from PPG sensor.</td>
</tr>
</tbody>
</table>

### Unique Selling Proposition(s):
- ▪ SotA performance in BP estimation and hypertension detection.

### Integration constraint(s):
- ▪ Model should be served in the cloud.
- ▪ Annotated data should be provided by the customer

### Intended user(s):
- ▪ Smartwatch/healthwatch/medtech developers

### Provider:
- ▪ Verhaert

### Contact point:
- ▪ Frederik Wouters – Frederik.wouters@verhaert.com

### Condition(s) for reuse:
- ▪ License to be negotiated.

*Latest update: 08.04.2020*
<table>
<thead>
<tr>
<th>Input(s):</th>
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<tbody>
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</table>
| Technical research question involving vital signs of patients. | Support in setting up the clinical trial at a hospital. | Clinical investigation
|           | Supporting hardware for vital signs detection can be provided or designed for use in the study. | Outcomes on the technical research question. |

Unique Selling Proposition(s):
- Assistance in designing the new technical/product solution based on vital signs.
- Combining Verhaert’s knowledge in technology development with the practical knowledge of setting up a clinical trial to verify and validate the designed technical solution.

Integration constraint(s):
- Main focus is on medical devices.

Intended user(s):
- Start-ups, scale-ups, company branches involved in new product design.

Provider:
- Verhaert

Contact point:
- Frederik Wouters – Frederik.wouters@verhaert.com

Condition(s) for reuse:
- To be negotiated.

Latest update: 08.04.2020
## Name: Hybrid Indoor Localization Algorithm

<table>
<thead>
<tr>
<th>Input(s):</th>
<th>Main feature(s)</th>
<th>Output(s):</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSSI readings</td>
<td>- Applicable for BLE and Wifi&lt;br&gt;- Filtered output for more precision&lt;br&gt;- Uses both RSSI and fingerprinting methods&lt;br&gt;- Easy to calibrate</td>
<td>- Location of users&lt;br&gt;- Individual mobility metrics&lt;br&gt;- Unauthorized trespassing alerts</td>
</tr>
</tbody>
</table>

| Unique Selling Proposition(s): | Hybrid algorithm for better precision<br>Applicable for BLE and Wifi devices<br>No separate hardware for the users. They can just use smartphones. |
| Integration constraint(s): | Anchor nodes has to be installed for the BLE case, for the Wi-fi’s application existing Wifi routers can be used.<br>Floor plans must be prepared. |
| Intended user(s): | Hospitals<br>Large infrastructures<br>Smart City applications |
| Provider: | Havelan |
| Contact point: | Dr. Tolga Sonmez, tsonmez@havelan.com.tr |
| Condition(s) for reuse: | Licensed software library |

*Latest update: 08.04.2020*
## Security Framework

<table>
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<th>Input(s):</th>
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<th>Output(s):</th>
</tr>
</thead>
</table>
| Cleartext data | API for bulk encryption/decryption  
|  | Message digests  
|  | Digital signature creation, validation, key generation and exchange | Encrypted data |

- **Unique Selling Proposition(s):**
  - Compatible with mobile application frameworks and IoT gateway
  - Faster encryption/decryption process than existing libraries
  - Small file size

- **Integration constraint(s):**
  - Open SSL library required
  - 4mb memory/disk space
  - ARM CPU architecture

- **Intended user(s):**
  - Embedded IoT Developers

- **Provider:**
  - NETAS

- **Contact point:**
  - Omer Faruk Acar, oacar@netas.com.tr

- **Condition(s) for reuse:**
  - Licensed software library

**Latest update: 12.04.2020**
# Name: Opensource IoT-Ignite MQTT Client for C#

<table>
<thead>
<tr>
<th>Input(s)</th>
<th>Main feature(s)</th>
<th>Output(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Sensor Data from peripherals</td>
<td>▪ Session Management</td>
<td>▪ Fast and easy to develop MQTT client for medical and generic type devices</td>
</tr>
<tr>
<td></td>
<td>▪ Continuous sensor data transfer to IoT Services</td>
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</tbody>
</table>

## Unique Selling Proposition(s):
- MQTT client for C# programming language gives developer to use IoT-Ignite platform in wider areas and environments.
- Applicable to both Windows and Linux environments.
- .NET developers can easily develop an IoT-Ignite client with their own needs.

## Integration constraint(s):
- .NET framework required to run the client

## Intended user(s):
- IoT Developers
- Peripheral Developers

## Provider:
- Noldus and ARDIC

## Contact point:
- Baris Inanc, baris.inanc@ardictech.com

## Condition(s) for reuse:
- Free to use and reuse

*Latest update: 12.04.2020*
## Name: Patient Monitoring Dashboard and IoT Platform

<table>
<thead>
<tr>
<th>Input(s):</th>
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<th>Output(s):</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Sensor Data</td>
<td>▪ Visualize patient data in a collaborative environment with graphs, data tables and widgets</td>
<td>▪ Graphical representation of Sensor Data</td>
</tr>
<tr>
<td>▪ Patient Reports</td>
<td>▪ Collect and Provide patient’s reports in a single platform to be seen by patient’s physicians and relatives</td>
<td>▪ Report and patient info storage</td>
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<tr>
<td>▪ Wound Images</td>
<td></td>
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<tr>
<td>▪ Analysis Results</td>
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</tbody>
</table>

### Unique Selling Proposition(s):
- Collaborative, easy to integrate IoT platform and dashboard for Health Vertical.

### Integration constraint(s):
- Any device with MQTT support can be integrated with IoT-Ignite platform.

### Intended user(s):
- Medical Device Manufacturers,
- Hospitals,
- Health Professionals,
- Patient Relatives

### Provider:
- ARDIC

### Contact point:
- Baris Inanc, baris.inanc@ardictech.com

### Condition(s) for reuse:
- License to be negotiated.

*Latest update: 12.04.2020*
Name: Activity Tracking System

<table>
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<th>Input(s):</th>
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<th>Output(s):</th>
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</table>
| ▪ Acceleration of users’ movements | ▪ Classification of users’ movements such as walking, running or immobility.  
▪ Step count.  
▪ The eWatch device can listen and analyze activity messages and can make localization calculations simultaneously. | ▪ Classification of the user’s movements.  
▪ Number of steps. |

| Unique Selling Proposition(s): | ▪ Real-time activity classification.  
▪ Advertisement messages appropriate for indoor localization systems. |
| Integration constraint(s): | ▪ The system available for Bluetooth 4.0 and above. |
| Intended user(s): | ▪ Personal tracking system developers.  
▪ Engineers who had developed pedometers. |
| Provider: | ▪ Medron Technology |
| Contact point: | ▪ Eren Mert, erenmert@medronteknoloji.com |
| Condition(s) for reuse: | ▪ To be negotiated. |

Latest update: 10.04.2020
## Name: Medron Device Gateway

<table>
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<th>Input(s):</th>
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</thead>
</table>
| ▪ BLE Advertisement | ▪ Using Bluetooth and Wifi at the same time.  
▪ Able to measure RSSI of any BLE devices for localizations.  
▪ Able to use Ethernet or Wifi for connection with cloud systems. | ▪ RSSI values  
▪ Information of BLE Advertisement |

| Unique Selling Proposition(s): | Installation and setup of the device is quite simple and fast.  
▪ Support Bluetooth, Wifi and Ethernet at the same time. |
| Integration constraint(s): | The gateway appropriate for Bluetooth 4.0 and above.  
▪ If the user wants to communicate with the device, Wifi or ethernet connection must be brought to the region where the device is installed. |
| Intended user(s): | Personal tracking system developers.  
▪ Smart Home systems developers. |
| Provider: | Medron Technology |
| Contact point: | Eren Mert, enernert@medronteknoloji.com |
| Condition(s) for reuse: | To be negotiated. |

*Latest update: 10.04.2020*