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| Input contribution  Use case | |
| Use Case Title:\* | Use case for information correlation |
| Group Name:\* | WG1 |
| Source:\* | BOE |
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| Date:\* | 2017-11-13 |
| Abstract:\* | Propose a use case for information correlation |
| Agenda Item:\* | REQ #32 |
| Work item(s): | WI-0015 |
| Document(s)  Impacted\* | TR-0001 |
| Intended purpose of  document:\* | Decision  Discussion  Information  Other <specify> |
| Decision requested or recommendation:\* | Discuss and make a decision to agree this input contribution. |
| Template Version:23 February 2015 (Dot not modify) | |

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## Title

Use case for information correlation

### Description

Different devices have different functions, but these functions may produce related information. For example, a smart watch can be used to monitor heart rate, number of steps etc.; meanwhile, a treadmill/bicycle can be used to monitor speed, distance, and calories burned. When these devices refer to the same person, the data produced by these devices are highly related, since the data is all about the health of the person.

At the same time, the relationship of different devices is dynamic. For example, when doing home exercise, the smart watch and treadmill are related. Similarly, when doing outside exercise, the smart watch and bicycle are related.

Outside Exercise

Home Exercise

User A

User A

Smart Watch Device

Treadmill Device

Health Management Platform

User A

User A

Health Management Platform

Bicycle Device

Smart Watch Device

### Source

BOE Technology Group

### Actors

* Smart Watch Device: has function to monitor the heart rate, number of steps of the End Users.
* Treadmill Device: has function to monitor the speed, distance, calories burned of the End Users.
* Bicycle Device: has function to monitor the speed, distance, calories burned of the End Users.
* Healthcare Management Platform: manages the healthcare related devices and stores the healthcare related information.
* End User: the user of the healthcare related devices.

### Pre-conditions

Smart Watch Device has the capability to discovery the Treadmill Device and Bicycle device, for example, using the NFC technology to discover the Treadmill device and Bicycle device.

### Triggers

N/A

### Normal Flow

Repeat the process between treadmill and smart watch

De-correlate the information of Treadmill and Smart Watch

Information de-correlation request

Discovery Process failed

Discovery Process Success

Correlate the information of Treadmill and Smart Watch

Information correlation request

Register

Register

Register

Smart Watch Device

Health Management Platform

Bicycle Device

Treadmill Device

1. Smart Watch Device, Treadmill Device, Bicycle Device register to Healthcare Management Platform;
2. During home exercise time, User A uses the Smart Watch Device to find the Treadmill Device;
3. Smart Watch Device initiates an information correlation request to the Healthcare Management platform;
4. Healthcare Management platform correlates the information of the Smart Watch Device and Treadmill Device;
5. User A leaves the treadmill device and can’t find the treadmill device;
6. The Smart Watch Device initiates an information de-correlation request to the Healthcare Management platform;
7. Healthcare Management platform de-correlated the information of the Smart Watch Device and Treadmill Device.
8. During outside exercise time, User A uses the Smart Watch Device to find the Bicycle Device;
9. Smart Watch Device initiates an information correlation request to the Healthcare Management platform;
10. Healthcare Management platform correlates the information of the Smart Watch Device and Bicycle;
11. User A leaves the bicycle device and can’t find the bicycle device;
12. The Smart Watch initiates an information de-correlation request to the Healthcare Management platform;
13. Healthcare Management platform de-correlated the information of the Smart Watch Device and Bicycle Device.

### Alternative flow

N/A

### Post-conditions

N/A

### High Level Illustration

### Potential requirements

1. The oneM2M system shall support the correlation of information from different entities.
2. The oneM2M system shall support de-correlation of information from different entities.