

Operational time predictor implementation on Symbian platform

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Main goal

Industry makes:

- More effective power sources.
- Possible the use of different greedy features in mobile device.

User wants to:

- Use lots of applications at the same time.
- Be always on-line.

Main goal is to:

Reduce the power consumption of the mobile device.

Sub task.

The small part in the global task is to:

- Predict precisely the operational time of the mobile device.
- Give to any user the possibility to use the mobile device as long as he wants, but has a limited functionality, that is the limited list of accessible applications.

Basic terms

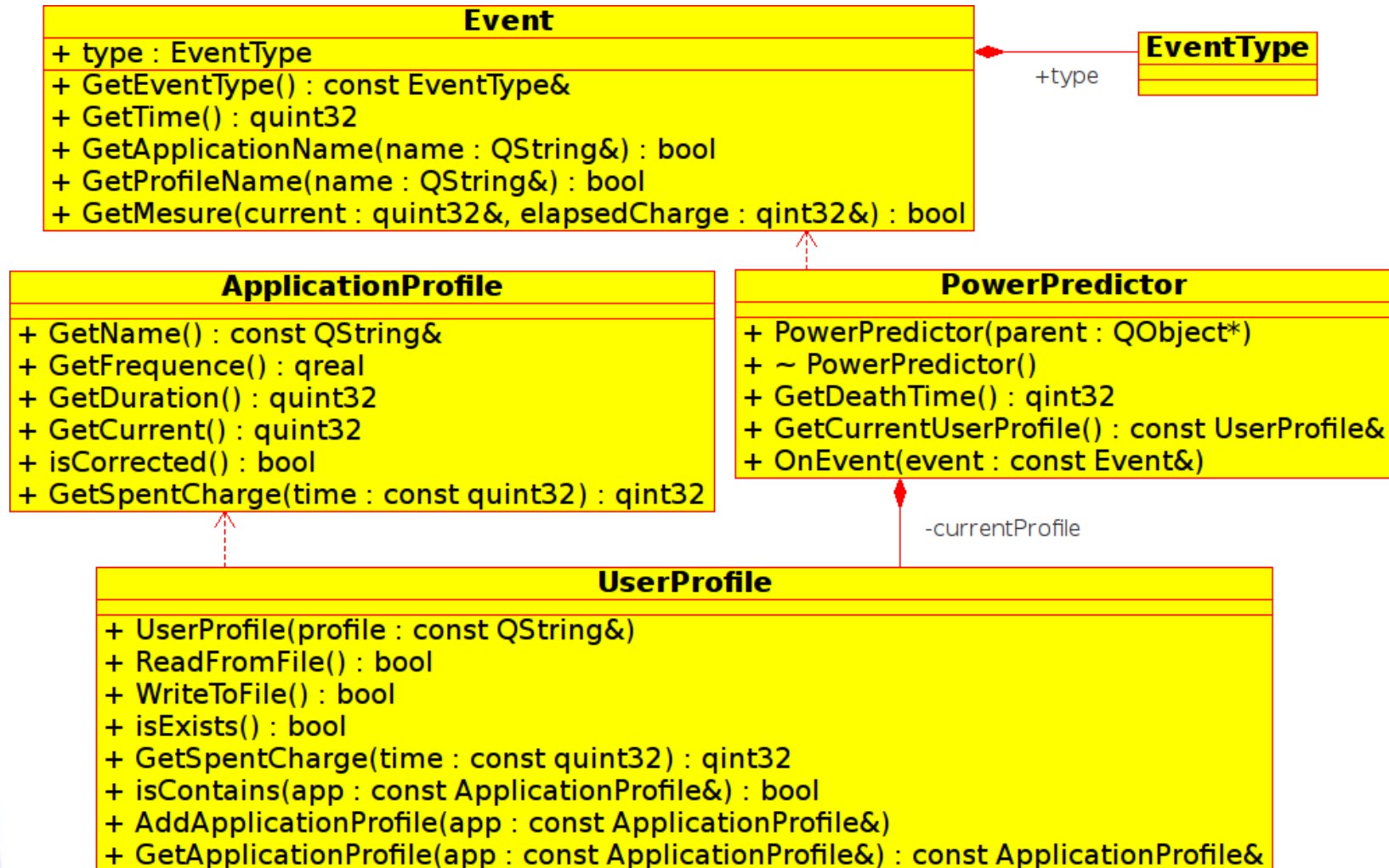
Application Profile – a set of parameters
(average: duration, frequency, current)

User Profile – a set of application profiles for
each exact application.

Event – an event of one of the types:

- Application start or stop
- Change user profile
- New measurement

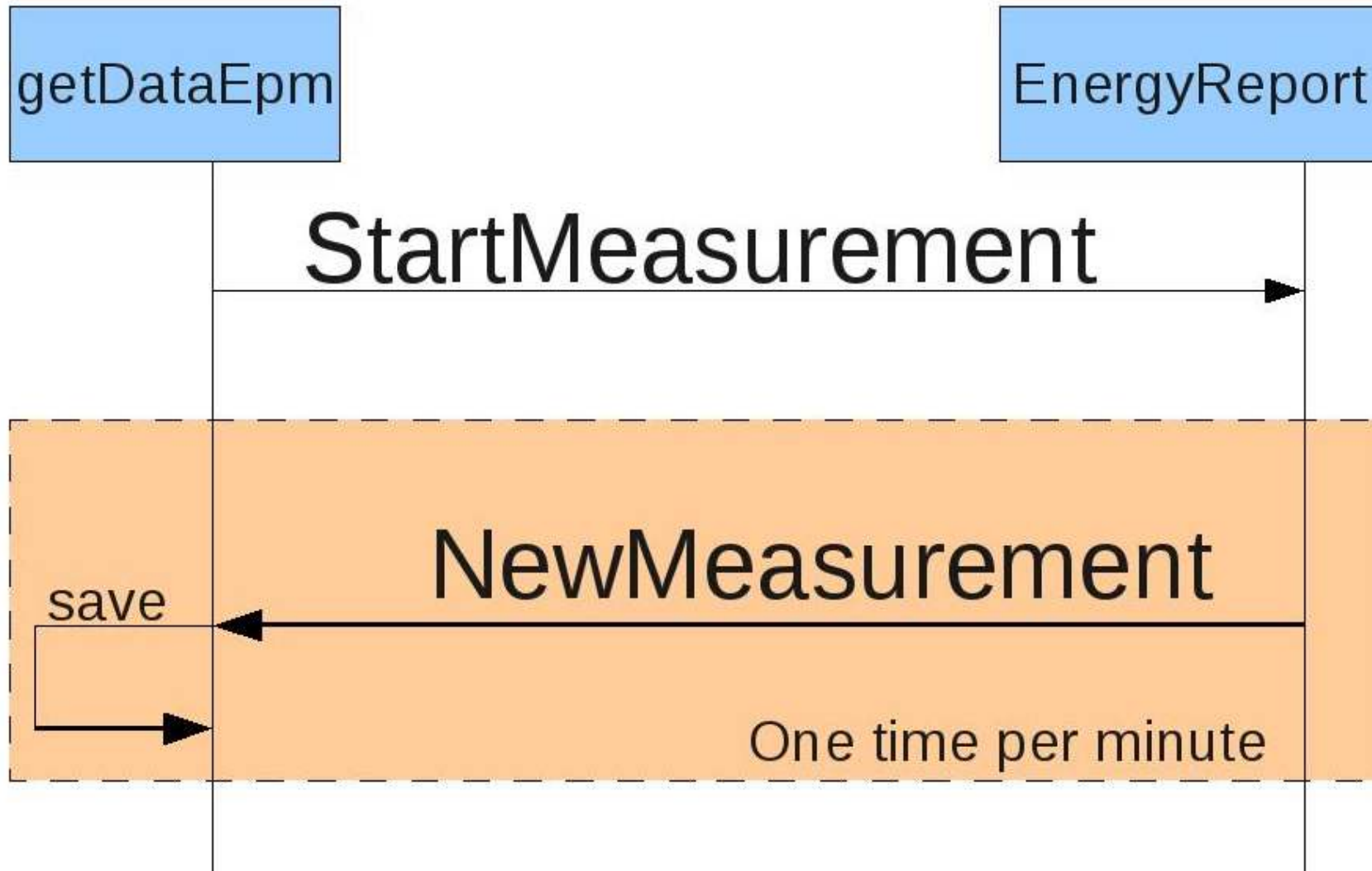
EPM logical structure



Power Predictor

- It is the main class of our application
- Its functions:
 - React to events
 - Emit signal – “new death time”

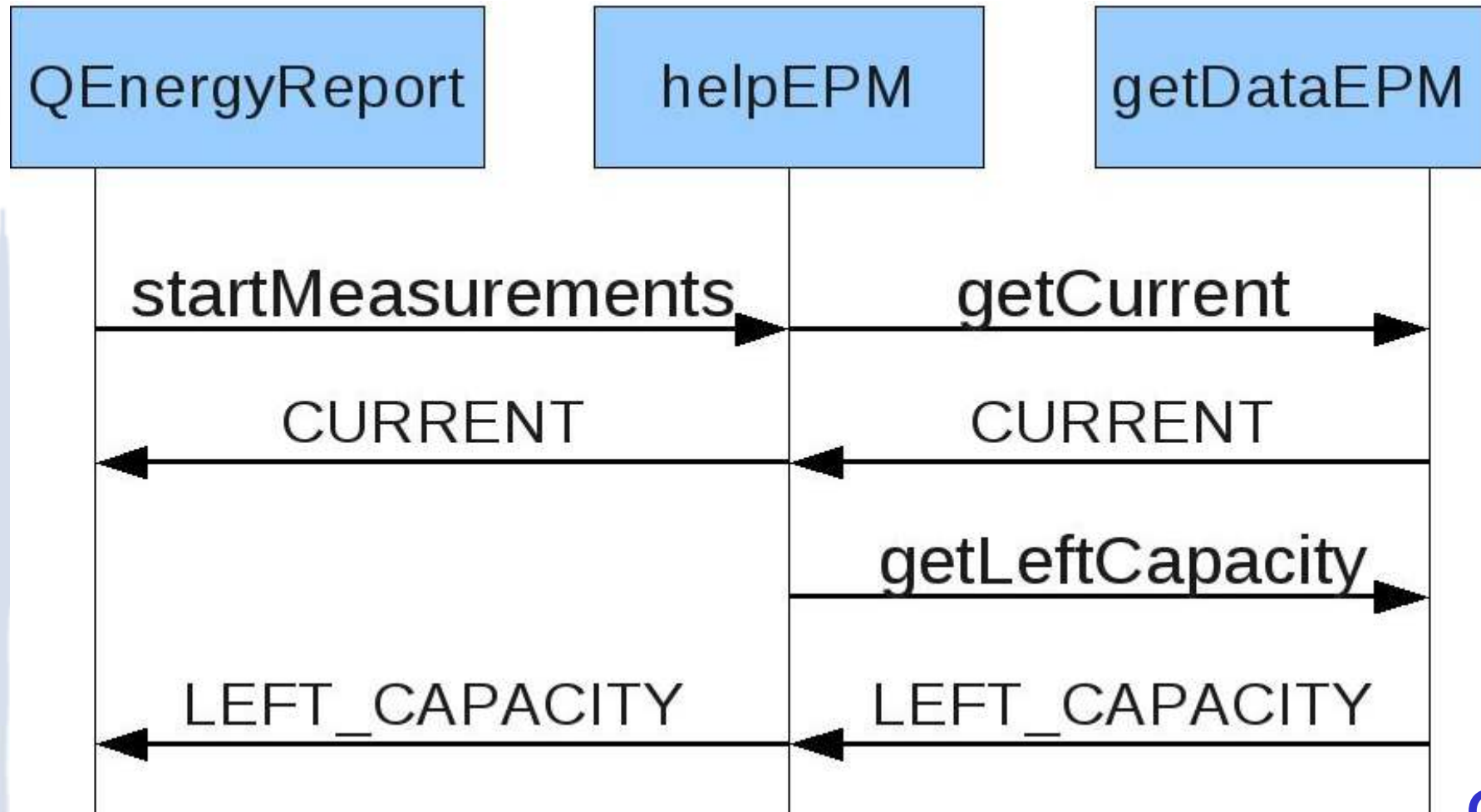
EPM Framework



EPM Framework

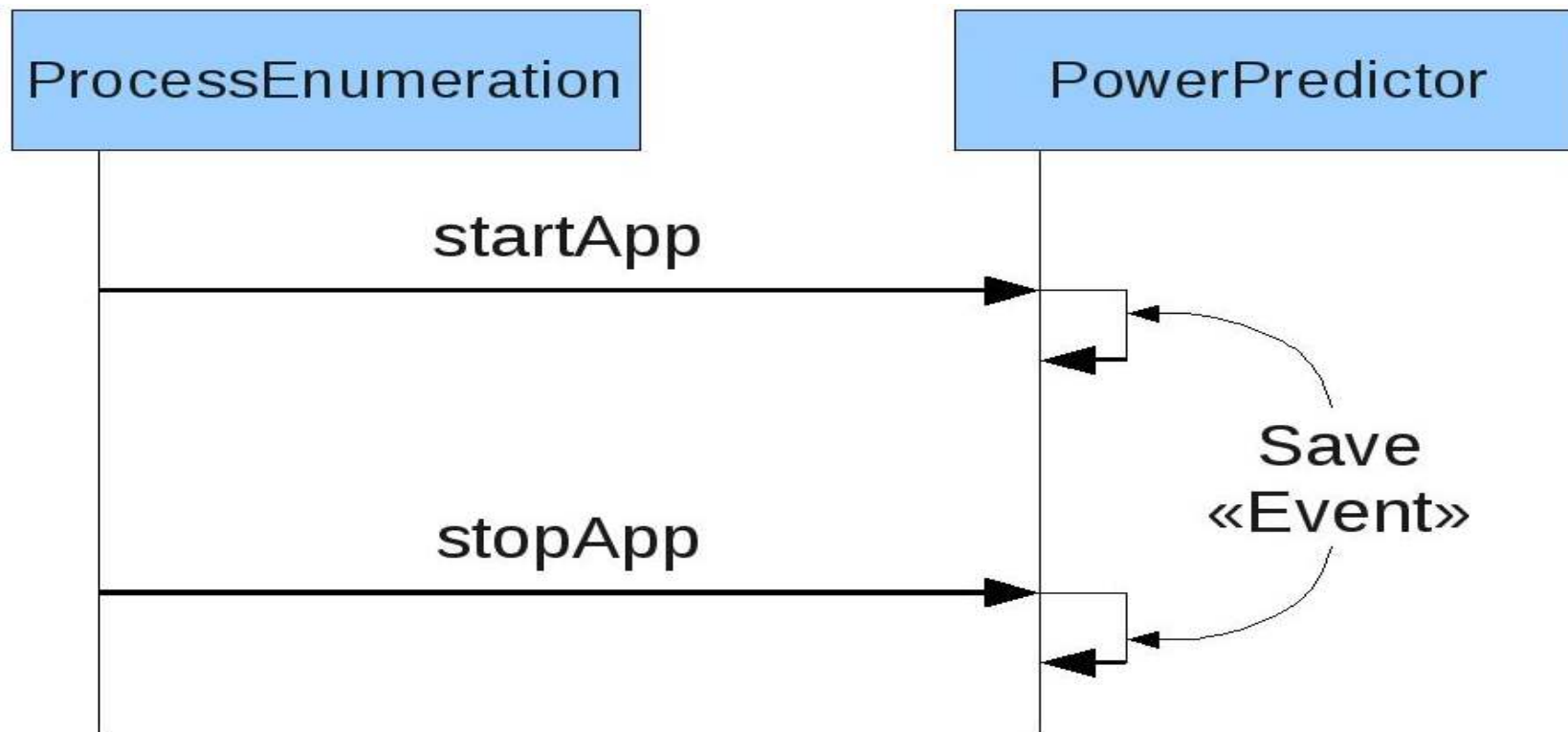
- Author: Gerard Bosch
- Provides specific parameters of the system:
 - Voltage.
 - Average power, spent during the last minute.
 - Left capacity.
 - Many others.

Interaction between EPM Framework and our application

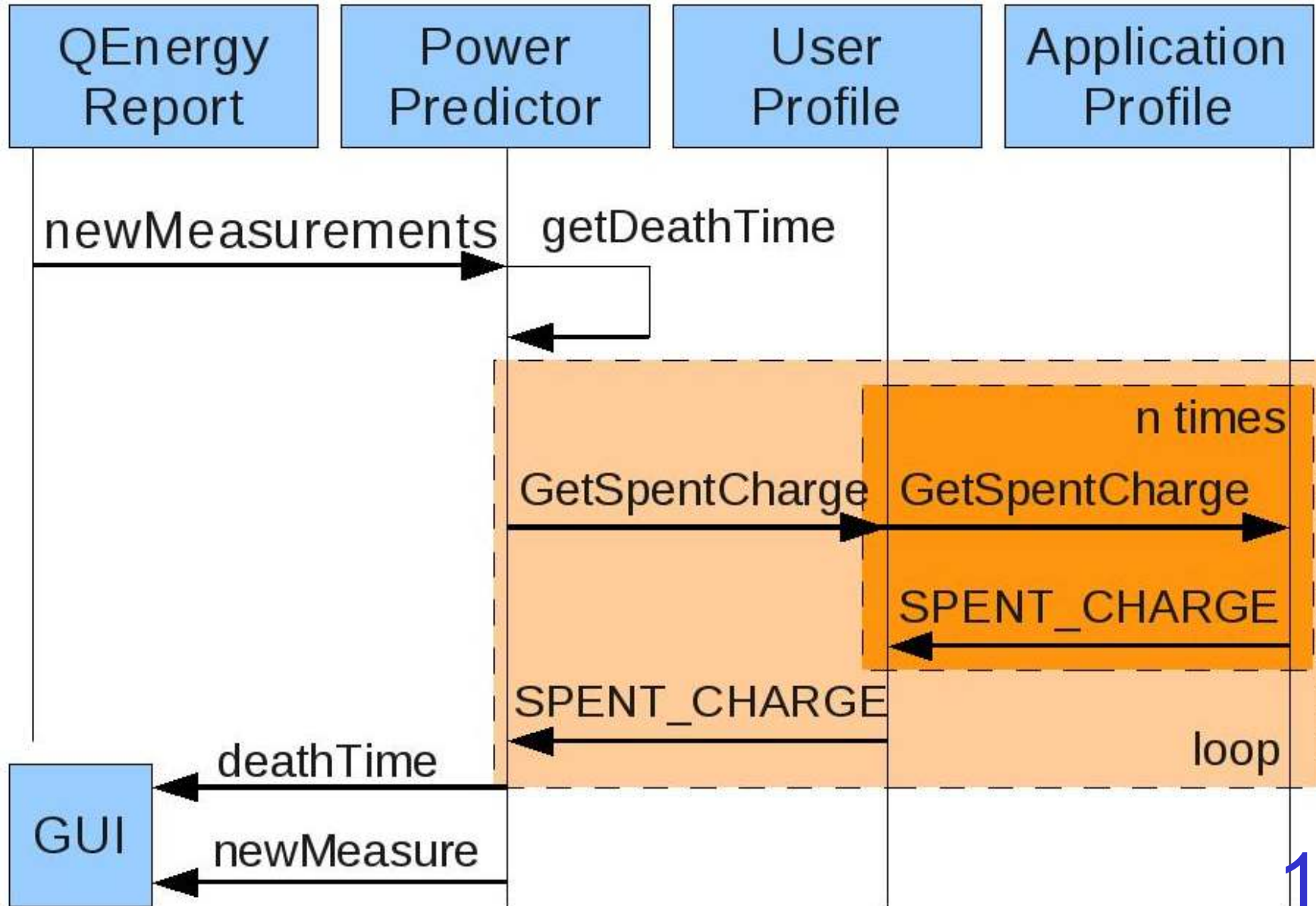


Interaction between process enumeration and power predictor

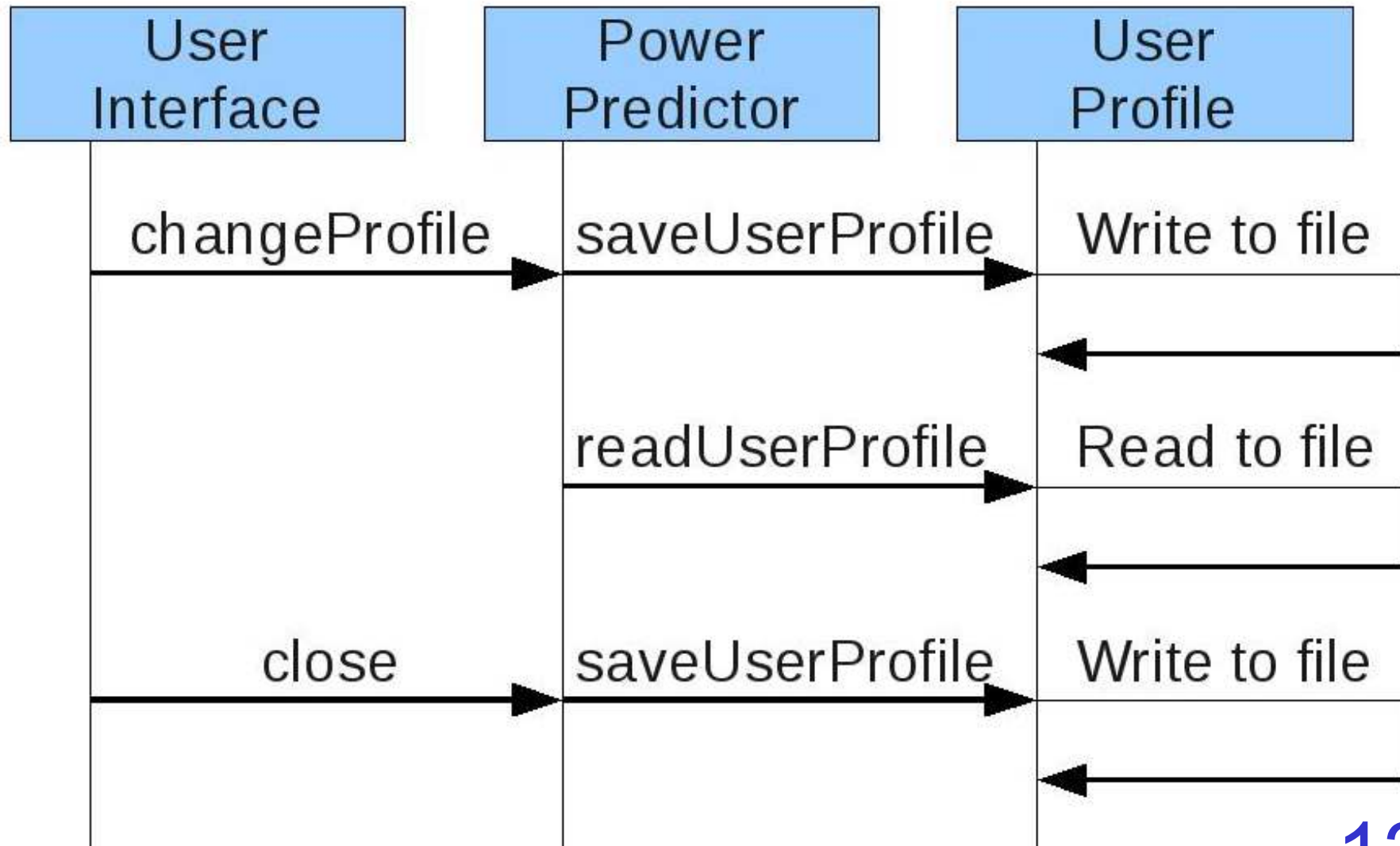
- Saving events to the list is necessary for calculation and changing the statistic data.



Power Predictor interaction model



Interaction with GUI



User Interface

