**Wearable Epilepsy Device & MC Team**

**T4: Patterns Matching, Association and Prediction**

* There are five **signals** being received and monitored. Each **signal** carries whether an **abnormality** was detected or not. The **signals** are used together and matched to known **issue patterns** that cause epileptic **seizures**. If the signals are associated with an **issue pattern**, then an epileptic **seizure** is predicted, and a **message** is produced.   
  **Noun (Bold)**
* Nouns:
  + **Signal, Abnormality**, **Issue, Pattern, Seizure, Message**
  + **Abnormality** is an abstract noun which is associated with a Signal. Therefore, use abnormality as an attribute for the Signal class.
  + **Pattern** is an abstract noun which is associated with an Issue. Therefore, use pattern as an attribute for the Issue class.
  + **Message** is an abstract noun which is associated with an Issue. Therefore, use message as an attribute for the Issue class.
* Classes
* Signal
  + Description
    - Creates objects representing the Boolean values being received from the signals.
  + Boundary Class
    - Receives input from an outside source.
  + Attributes
    - Abnormality – Boolean value representing if an abnormality was detected.
* Issue
  + Description
    - Creates objects representing the issue patterns.
  + Entity Class
    - Known issues always exist and will be compared with.
  + Attributes
    - Pattern – Represents what pattern of signals causes the issue.
    - Issue Message – The output describing what issue is occurring.
* Seizure
  + Description
    - Models algorithms to check if the signals match an issue pattern.
  + Control Class
    - Models the algorithms that compares the signals with the patterns to compute if an issue occurred.