Assignment #2

Requirements and Challenges
“Student Work”

Student Name
CmpE203-03

Concept(1): Duration

Type: EBT

Duration is an enduring concept. Duration exists for any process in the universe. Even if some processes were never executed, they still apply to concept of duration. Duration does not apply only for a finished or completed action; it can be applied to the enduring (always-continuing) processes as well.

Functional Requirements:

- **Begin / End:**
  Any process, action, event has the beginning. Even if this particular process or event did not occur yet, it is still have the root intent to begin sometime; otherwise, it could not be a process. The same situation is for ending point of the process. In case of any enduring, never-ended process the dynamic duration is still exists; it is just not static yet.

- **Process:**
  Actual process which duration is applied to.

- **Time:**
  In the physical world, all durations are measured with time.

- **Measurement:**
  Any duration can be measured using some kind of absolute units or just relative meanings (long, short, quick).

- **Recording:**
  While all processes in the universe, have duration, if duration was not recorded or saved after it ended in most cases it lost and can be closely restored only in the hard way.

- **Party / Actor**
  The Party that makes or uses the process which duration is measured.

- **Frequency**
  How often the measured process occurs, how many time its repeated.

Non-Functional Requirements:

- **Precision:**
  Precision is very important part of duration. Precision is depending on need of the problem, and requires different tools to be enforced. At the same time, because time is mobile you cannot be 100% precise for any duration even with most sophisticated measurement tools.
• **Presentation:**
  Duration and its result can be presented in many different formats to be understandable for humans or machines.

• **Accuracy**
  How accurate is the duration of the process.

**Challenges:**
• Determine the beginning and the end of duration
• Increase level of accuracy of the duration
• Finding the correct, accurate and reliable measuring tools for duration
• Using the right units to measure the duration
• Standardize the duration formats

**Concept(2):** Conviction

**Type:** BO

Conviction is a verdict that results when a court of law finds person guilty of a crime. For many reasons, justice system is not perfect and wrong verdicts result in convicting the wrong person. There are number of appeal mechanism to somehow fix this kind of errors if it happened. After conviction, any form sentence or punishment is applied to the convicted person.

**Functional Requirements:**
• **Judgment:**
  In order to make an act of conviction, evaluation of all evidences should be made.

• **Proof / Evidence:**
  Any conviction has a substantial proof with evidences to support this type of decision.

• **Crime:**
  Crime is a reason of conviction, without a crime, no conviction could be made. Crime is the beginning of the process that can ends up in conviction later.

• **Sentence:**
  All convictions have a sentence as a form of punishment for a person found at guilt.

• **Charge:**
  Charge is a formal accusation that a person has committed a crime, which is the base of the process to find if person is guilty or not and convict him based on the output of the process.

**Non-Functional Requirements:**
• **Credibility:**
  Credibility shows how trustworthy is the decision of conviction. It can be seen in public voice based on many subjective factors or on the later appeals to original decisions.

• **Verifiability:**
  Any conviction should have substantial proof of records to be verifiable in future, if any problems or audits arise.
• **Reversibility:**
  Conviction has reversal upon appeal mechanism if any errors happened and proofed during original decision of conviction.

**Challenges:**
• Conviction should have enough proof to stand in court in future
• Act of conviction should be made as trustful and transparent as possible
• Avoid making the errors in convictions, and convicting the innocent person
• Avoid bringing validity of judgment into question, which can result of low credibility of judgment system overall.