Term Project:

A Cloud based EGK service and data storage.

To learn end-to-end & none-trivia software (Service) engineering process.

Problem Statement

EGK or Electrocardiography is “a transthoracic (across the thorax or chest) interpretation of the electrical activity of the heart over a period of time” (from wiki). It is a device used to monitor patients normally intensive care. In a case that patients are out of critical and perhaps can be lightly monitored, a remote & portable EGK may be necessarily vital for short & long term health condition of the patients.

One hospital has developed a remote & portable EGK device that is able to communicate with a server to store patient’s record for health monitoring. However, they don’t want to procure their own infrastructure since the number or patients can grow or shrink so do the records. You are asked to develop EKG cloud service & data storage that will take the following records format. You have to learn and calculate the potential loads to the system in order to effectively offer the services.

Deliverables:

Weekly effort 30% - provide a score card for each week
Project deliverable grade 70% and breakdown as follows

<table>
<thead>
<tr>
<th>Deliverable</th>
<th>Score</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Plan (living document)</td>
<td>10%</td>
<td>Sep 24</td>
</tr>
<tr>
<td>Requirement Document</td>
<td>15%</td>
<td>Oct 3</td>
</tr>
<tr>
<td>Analysis and Design Document</td>
<td>25%</td>
<td>Oct 17</td>
</tr>
<tr>
<td>Test Plan</td>
<td>10%</td>
<td>Oct 17</td>
</tr>
<tr>
<td>Customer Acceptance Test: Presentation &amp; Test tools (Demo)</td>
<td>40%</td>
<td>Nov 7</td>
</tr>
</tbody>
</table>

```
cfg : {
    id : x,
    ch : 12
},
data : [  
    [ time, L0, L1, L2, L3, L4, L5, L6, L7, L8, L9, L10, L11 ],
    [ time, L0, L1, L2, L3, L4, L5, L6, L7, L8, L9, L10, L11 ],
    .................................................................
]```
cfg is configuration
id is a patient ID
ch number of channels

data
time timestamp in UTC in 0.01 sec
Ln EGK signal leads 4

A typical EGK device