***Application Performance Monitoring System.***

**COMPONENTS:**   
1) GUI

--The user interface will comprise of the following screens:

1) Display of all the processes running on the system with facility for user selection of process and selection of the performance metrics to be monitored.

2) Display of the resource consumption charts for the selected process.

2) Performance Collection Component

1) This component will be responsible for collection all kinds of performance metrics from the OS (for example registry level information in Windows).

2) A rest api will be wrapped around the results of the methods of this component.

3) Analytics Engine

4) Persistence component [Knowledge base]

1) A 3NF MySQL database as shown below.

**COMPONENT DIAGRAM:**

USER i/p: selected process/Perfmonace metrics

***Performance Collection Component***

(rest apis built on the top of perfmon/sigar)

***Analytics Engine***

***Persistence Component***

MySQL DB (3NF)

DISPLAY ALL PROCESSES ***USER Interface*** CHARTS/GRAPHS/Recommendations

**DB Design:**

Table 1: Process Table.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ID(primary key)(System generated) | Name | Type | Cpu ID | Mem ID | i/0 | …… |

Table 2: Thread Table

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ID(primary key)(System generated) | Thread\_id | Parent\_Process\_ID | CPU ID | MemID | ……. |  |

Table 3: CPU Info Table

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ID(primary key)(System generated) | CPU Core Number | CPU frequency | …………. |  |  |

Table 4: Memory Info table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID(primary key)(System generated) | Shared Memory | Resident Memory | Size of memory | ……… |

**Source Code Design:**

--Interface Process:

|  |
| --- |
| Variables :  -Name  -Pid  -CPU  -Memory  -User  -I/O  -Threads  -Type |
| Methods:  kill()  watch()  gather()  getters()  setters() |

--Class SystemProcess implements Process

--Class UserProcess implements Process

--Interface Thread

--Class UserThread implements Thread

--Class SystemThread implements Thread

--Class ProcUtil()

|  |
| --- |
| Variables: |
| Methods:  -getAll()  -getSingle(int pid) |

--Class ProcessDAO

|  |
| --- |
| Variables: |
| Methods:  -store()  -retrieve() |

--Class ThreadDAO

|  |
| --- |
| Variables: |
| Methods:  -store()  -retrieve() |