|  |  |
| --- | --- |
| **Group** 27 | Item Tracker |
| **Major:** | **Team members:** |
| CS | Mohammad Aljagthmi |
| EE | Ryan Ly |
| CEG | Jake Manser |
| CS | Donald Taylor |

**HW/SW Design Trade**

*Blue text (like this) should be removed from your submission. Each design choice made in your project should be presented in this worksheet. Hence, each system design trade that was previously enumerated should result in at least one corresponding worksheet. Please enumerate these worksheets in a logical fashion for your advisor that is consistent with your earlier design architecture and system design trades worksheets.*

*For each design trade, specify the decision to be made and where it fits within your system architecture. Fill out a table as structured below where each design option is assigned a column, and each criteria for evaluating these options is assigned a row. Design options should be as specific as possible, such as a specific piece of hardware or a specific algorithm. The most frequent source for criteria will be your earlier requirements, constraints, and standards, although other factors such as schedule may come into play.*

*A value should be entered for each design option under each criteria, allowing each design option to be evaluated against each criteria. For simplicity, design options that satisfy a given criteria (e.g., requirement, constraint) should have the box at the intersection of the option and the criteria colored green, or if a criteria is not met, the box should be colored red. The option that is overall evaluated best against the criteria should be selected. If no design options satisfy all criteria, you should consider other design options, or if all options are exhausted, discuss a revision of your requirements/constraints with your project advisor. Through this process, you should make a series of design choices that most effectively satisfy your requirements, constraints, and standards and thereby achieve your design objectives.*

Hardware/software design choice to be made (include its identification within your system architecture): ….

*For the table below, add/subtract rows/columns as needed to be consistent with the number of design options and the number of design criteria.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Design Options | | | | |
| Criteria | *Option 1*  *(model no.)* | *Option 2*  *(model no.)* | *Option 3*  *(model no.)* | *Option 4*  *(model no.)* | *Option 5*  *(model no.)* |
| *Req. 20* | **###** | **###** | **###** | **###** | **###** |
| *Req. 150*  *(data rate)* | **450 Mbps** | **450 Mbps** | **866 Mbps** | **1.73 Gbps** | **54 Mbps** |
| *Req. 175* | **###** | **###** | **###** | **###** | **###** |
| *Const. 20*  *(weight)* | **500g** | **150g** | **400g** | **600g** | **250g** |
| *Const. 50* | **###** | **###** | **###** | **###** | **###** |
| *Std. 20* | **###** | **###** | **###** | **###** | **###** |

State and justify your design choice: …..

GUI – Programming Language

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Design Options | | | | |
| Criteria | Option 1  Java | Option 2  C++ | Option 3  Swift | Option 4  Python | Option 5  JRuby |
| Req No. 3.0 | Used for mobile app development | Used for mobile app development | Used for mobile app development | Used for mobile app development | Used for mobile app development |
| Req. No. 7.0 | Is Multi-Platform | Is Multi-Platform | Is IOS exclusive | Is Multi-Platform | Can be used on Android devices |
| Familiarity with language | All team members have experience | Some team members have experience | No experience | Some team member have little experience | No experience |
| Has Tracking Library Tools | Redpin |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

GUI – Platform for Delivery

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Design Options | | | | |
| Criteria | *Option 1*  *(model no.)* | *Option 2*  *(model no.)* | *Option 3*  *(model no.)* | *Option 4*  *(model no.)* | *Option 5*  *(model no.)* |
| *Req. 20* | **###** | **###** | **###** | **###** | **###** |
| *Req. 150*  *(data rate)* | **450 Mbps** | **450 Mbps** | **866 Mbps** | **1.73 Gbps** | **54 Mbps** |
| *Req. 175* | **###** | **###** | **###** | **###** | **###** |
| *Const. 20*  *(weight)* | **500g** | **150g** | **400g** | **600g** | **250g** |
| *Const. 50* | **###** | **###** | **###** | **###** | **###** |
| *Std. 20* | **###** | **###** | **###** | **###** | **###** |

Database - Language

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Design Options | | | | |
| Criteria | Postgres | SQL | MySQL | Room | Firebase |
| *Req. 20* | **###** | **###** | **###** | **###** | **###** |
| *Req. 150*  *(data rate)* | **450 Mbps** | **450 Mbps** | **866 Mbps** | **1.73 Gbps** | **54 Mbps** |
| *Req. 175* | **###** | **###** | **###** | **###** | **###** |
| *Const. 20*  *(weight)* | **500g** | **150g** | **400g** | **600g** | **250g** |
| *Const. 50* | **###** | **###** | **###** | **###** | **###** |
| *Std. 20* | **###** | **###** | **###** | **###** | **###** |