|  |  |
| --- | --- |
| **Client** | **Informations to find** |
| Investor (Customer) | Project complexity with technical specifications. Functional and Nonfunctional requirements. Idea of solution, system capacity (storage, computation potential) and purposed price. |
| Student | Use cases of student account shows possibilities of supercomputer usage. What functions are provided for student’s account. |
| Researcher | Everything what is important for students. Additionally information about special features available only for Researchers like: accelerated nodes for GPU computation, |
| IT Support | Details about Special IT support functions e.g. Statistics like: power usage in current moment./ Day, month;  Usage of computational resources in on live, average per day, week ,month etc. Access to manage functions like: turn on, turn off machine, disable computer functions etc. |

|  |  |  |
| --- | --- | --- |
| **Event Name** | **Input & output** | **Description** |
| Starting simulation | Computing all current jobs | Main functionality of supercomputer software; simulation starts creating random users and simulate real life computations adding each user demand (job) to queue |
| Calculating currnet demand | currentDemandNumber,  computation resutls | Main functionality of user; system’s customer will be able to order a job (computation) |
| Making users | Users list | Creating users for simulation purposes |
| Estimating job period | userDemandType,  Estiamted job time | Returning estimated time of demanded job selected by user |
| Listing jobs | Job list | Users are able to view all jobs in queue |
| Providng computation resources | Job estimated period, numer of demanded cores,  Number of provided nodes | Providing resources for each demand, checking if there are available cores and nodes. |
| Browsing statistics | Income, longest job, average jobs time | All statistics are showed in a chosen period of time (day/week/month/year) |
| Managing users balance | Acctual balance | Notifying each user about their balance Checking if user balance is high enough for performing selected job |
| Scheduling | Maded Queue | Making queue using First-come, first-served system |

Project scope

|  |  |
| --- | --- |
| **Name** | **Description** |
| Simulation | Starts simulation with all scheduled jobs:Creates users; |
| Users | Have unique userID; Holds information about account type:Student, Researcher or IT Support;Defines type of job demand: Small, Medium, Large, Huge |
| Supercomputer | Manage all computer nodes;Calculates job cost per minute;All users are stored onsupercomputer internal storage (database); |
| Job time estimator | Estimates job time |

|  |  |  |  |
| --- | --- | --- | --- |
| ***Customer interface requirements*** | | | |
| Requirement #: **1** | Event/use case #: **Customer - 1,4** | | |
| Description: |  | **System should allow customer to order a job - computation.** | |
| Rationale: |  | **To provide interface for computing on supercomputer. Interface is can be seen in terminal.** | |
| Originator: |  | **Xxxx Xxxxx - Supercomputer programmer.** | |
| Fit Criterion: |  | **User can send files to internal supercomputer’s storage and order needed high performance computation for given problem. Interface should be intuitive.** | |
| Priority: | | | **9** |
| Conflicts | | | - |
| Supporting Materials: **-** | | | |
| History: **Created December 20, 2016** | | | |  |

|  |  |  |  |
| --- | --- | --- | --- |
| ***Customer interface requirements*** | | | |
| Requirement #: **2** | Event/use case #: **Customer - 1,4** | | |
| Description: |  | **System should allow customer to look at his job in queue and actual balance** | |
| Rationale: |  | **To provide interface feature for delivering information about customer ‘s account** | |
| Originator: |  | **Xxxx Xxxxx - Supercomputer programmer.** | |
| Fit Criterion: |  | **User is able to see his current balance and position of his job in queue** | |
| Priority: | | | **9** |
| Conflicts | | | - |
| Supporting Materials: **-** | | | |
| History: **Created December 20, 2016** | | | |  |