**Risk Exposure**

|  |  |  |  |
| --- | --- | --- | --- |
| **Risk Description** | **Probability** | **Estimated Loss Size (days)** | **Risk Exposure (days)** |
| Someone is out for a prolonged period | 14% | 14 | 2 |
| Can't get ahold of sponsor for 2 weeks | 30% | 4 | 1.2 |
| Hardware doesn't meet our needs | 5% | 14 | 0.7 |
| Implementation taking longer than expected | 70% | 5 | 3.5 |
| Unexpected new requirements | 20% | 10 | 2 |
| Sub-par communication in team | 25% | 3 | 0.75 |
| Subject material too difficult | 25% | 7 | 1.75 |
| Project highly coupled | 75% | 3 | 2.25 |
| Frequent shifts in client priority | 15% | 10 | 1.5 |
| Change in hardware affects project code | 2% | 5 | 0.1 |
| Backups don't work properly | 30% | 3 | 0.9 |
| Github gets DDOSed | 95% | 1 | 0.95 |
| Design turns out to be unfeasible | 15% | 5 | 0.75 |
|  |  |  |  |
|  |  | **Total Risk Exposure:** | **18.35** |

Thus, we will pad our team’s schedule with 18 days worth of risk padding time.

**Detailed Risk Analysis:**

***Risk:*  Someone is out for extended period**

* *Mitigation Plan:*
  + Figure out the priority/importance of each task already assigned to the person
  + Reassign high priority work to available/most suitable team member
  + Divide up the other tasks among the rest of the team

***Risk:* Can’t get a hold of sponsor**

* *Mitigation Plan:*
  + If sponsor will be back in a relatively short period of time, postpone work that requires sponsor help until his return
  + If sponsor will be gone for an extended period of time, talk to Bart to figure out how to complete our capstone project without the sponsor

***Risk:* Hardware doesn’t meet our needs**

* *Mitigation Plan:*
  + Ask sponsor to adapt hardware to our needs

***Risk:* Piece of code takes longer than planned for**

* *Mitigation Plan:*
  + If this is because a team member is stuck, and if there is another team member who is more proficient in solving the type of problem in question, reassign to that team member
  + Reassign future tasks of members working on the code to others
  + Seek help from sponsor if necessary

***Risk:* Unexpected new requirements**

* *Mitigation Plan:*
  + Assess scope and weight of new requirements based on what is affected and how difficult implementation will be.
  + Distribute new responsibilities to team members to accomplish subtasks.
  + Implement new requirements (may require changes to elements previously implemented).

***Risk:* Subpar communication in team**

* *Mitigation Plan:*
  + Determine and address the cause of the inadequate communication.
  + Find a solution.

***Risk:* Subject material too difficult**

* *Mitigation Plan:*
  + Edit the schedule to reflect new understanding of project complexity.
  + Distribute new tasks as necessary.
  + Increase research. Talk to Paul.

***Risk:* Project highly coupled**

* *Mitigation Plan:*
  + Assess the depth and cause of coupling.
  + Determine solution/workaround.
  + Talk to Paul if necessary.

***Risk:* Frequent shifts in client priority**

* *Mitigation Plan:*
  + Adjust schedule to accommodate client’s priority
  + If frequent priority changes make it difficult to complete tasks, discuss the scheduling delays with Paul.

***Risk:* Change in hardware effects project code**

* *Mitigation Plan:*
  + Understand the impact on the code
  + Determine how to change the code to work with new hardware
  + Schedule code changes

***Risk:* Backups don't work properly**

* *Mitigation Plan:*
  + We will all have our local copy of the repository so the likelihood of losing our work is very low
  + Figure out who has the most recent history
  + Set up new origin on another provider and change everyone’s remotes to point to new origin

***Risk:* Github gets DDOSed**

* *Mitigation Plan:*
  + Work locally, with an understanding that merge conflicts will be a higher probability once Github is restored

***Risk:* Design we decided to use turns out to be unfeasible**

* *Mitigation Plan:*
  + Revisit design plans and determine which sections will now be unfeasible.
  + Quickly revise design to accommodate, and revise any coupled design decisions.