CMPT 371 – Team 3

Risk Management Plan

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Introduction

The Rating scale:

Negligible (0% - 20%)

Minor (20% – 40%)

Moderate (40% - 60%)

Significant (60% – 80%)

Severe (80 - 100)

Instruction:

Probability – Probability rating of the risk to occur

Impact – Impact rating of the risk to the project

Priority – Priority of the risk to our project

Risk – Discerption of the risk

Project Impact – Potential impact of the risk to the project

Consequences – Consequences that can happen to active the contingency plan

Response – Response strategy to prevent the risk from causing issues.

Contingency Plan – Risk Contingency Plan

Insurance – Plan in place that would lower the cost of the risk to the project

Virtual Reality Risks

Motion Sickness

Probability:

Moderate

Impact:

Moderate

Priority:

Significant

Risk: Motion sickness occurs because of slow refresh rate, poor resolution, and visual vestibular mismatch (vestibular system is part of the inner ear that monitors movement and helps control balance).

Project Impact: Motion sickness can turn people off to VR, which could cause the entire project if the problem become too significant.

Consequences: Motion sickness cause the users to experience general discomfort, nausea, headache, disorientation and fatigue.

Response: Less virtual movement and extensive testing for different type people. Try different types to reduce discomfort, for example adding a nose, glasses, body, to the user. Add a session timer.

Contingency plan: Equalize the sensory cues by fixate on an object far away.

Insurance: Before testing, have the tester answer a questionnaire telling them there is a possibility of motion sickness and give their signature for approve.

Eye Strain

Probability:

Minor

Impact:

Significant

Priority:

Moderate

Risk: Too much exposure to HEV (high energy light) for long period of time. Staring at the screen that is inches from your eyes. Distortion in the picture.

Project Impact: Eye strain could make the software unusable by a number of affected users.

Consequences: Eye strain can cause permanent damage to the retina, and also causes short-sightedness, and nausea from distortion.

Response: Significant focus on steady FPS (frame rate per second) to avoid distortion, and unnatural strain on the eye. Add a session timer. Add an option for the user to adjust the focus for each eye camera, or couple of pre-set view.

Contingency plan: Because the symptom is physical damage, there is not much the developer can do, except doing their best to help the user prevent risk from happen.

Insurance: Have the tester answer a questionnaire telling them there is a possibility of eye strain and get their signature for approval.

Physical Injuries

Probability:

Minor

Impact:

Significant

Priority:

Moderate

Risk: Physical Injuries in VR can happen from bad frame rate, no visual representation of the user's arm in VR, uneven or messy surrounding.

Project Impact: Physical safety is an important concern for the public, so the developer would have to put a significant amount of time to perfect it.

Consequences: Motion sickness would give the user physical pain from, fall, colliding with hard object, breaking bones just to name a few. It can also cause damage to household items like the computer screen, water cups, or desk.

Response: Give the user the freedom of customizing their works station to match their real-life environment, and design an intuitive and easy to use UI (user interface). Doing test with users to help with the design of the UI.

Contingency plan: Because the symptom is physical damage, there is not much the developer can do, except doing their best to help the user prevent risk from happen.

Insurance: Add the possibility of physical injuries into the User Guide and advise the user to prepare the work space before using VR.

Headset Damage

Probability:

Minor

Impact:

Significant

Priority:

Moderate

Risk: Accidental drops occur during programming and user testing session, or when the user accidentally drops the VR headset.

Project impact: The impact would be significant for the team because if an accident does happen to occur then it would greatly diminish our ability to test and program, delaying the due date.

Consequences: Most of the consequence to the team would be the time cost, and spending cost for the owner.

Response: Always have member of the team on site to provide assistant for the tester, and make most of the physical dealing with the VR head set to the team member.

Contingency plan: Because the symptom is physical damage, there is not much the team can do, except to do their best to preventing risk from happen.

Insurance: Have the tester answer an questionnaire, and tell them that there is a possible of accident breaking to the VR headset, so only the team would be allow to put the headset on and taking it off, and If any accident does occur we would have to follow the guideline. Ask the tester to give their signature for approve.

Program Risks

Unity License

Probability:

Moderate

Impact:

Significant

Priority:

Significant

Risk: There are four type of unity license, Personal, Education, Plus, and Pro. The big different between the license is the ability to publish the project. The personal, and higher all have the ability to publish, but the Education doesn't. Accidental edits between education and personal version could impact the project metadata.

Project Impact: The impact to the project would be huge, if any of the team member accidently edited in the wrong version without knowing, the mistake could jeopardize the entire project.

Consequences: The main problem would be the project will lose its ability to be published.

Response: Try not to open the project on the university's computer, do most of the work on your own personal computer, and be cautious of the risk.

Contingency plan: Try to identity when the problem might had started, and look through the past save file to see if there is a version before it. Check for the amount of data missing and with the help of the old problem project update the older version back to the current states.

Insurance: Consistently doing backup of the project, check 3 project version, a one day old, a 3 day old and a week old version. Trying to cover all possibility.

Continuous Integration

Probability:

Minor

Impact:

Moderate

Priority:

Minor

Risk: Releasing Code with errors, or testing functions still inside, because building the program is automatic with continuous integration. Nobody is fixing the broken code, because it is easier to find bugs then fixing it.

Project impact: Delay programmable time, or risk the team by releasing an unpolished code.

Consequences: Bad response from the client, when trying an unpolished program.

Response: Keep the master build to be releasable at all time, the development branch will do merges, and tests, only if the script have pass all test, then it is allowed to commit to the master branch. If any test file, then the code has to be fixed and do all the test until finished. Make a list of bugs that appears and the date of when they appeared, and the date of when they are fixed.

Contingency plan: Roll back the git, or use the backup to get back to working as soon as possible.

Insurance: Create Backup of the Github, in case anything went wrong.

Data Corruption

Probability:

Minor

Impact:

Significant

Priority:

Moderate

Risk: Files become suddenly inoperable or unusable. Computer loses power or crashes during saves. Saving files on bad section of your hard drive, or other storage media. Written wrong information to the files.

Project impact: Depend on the item corrupted, the lost time, and data can be massive.

Consequences: Information inside of the file is written at the wrong place, data becomes scrambled, leaving the file physical unreadable. Programs or operating system can also develop corrupted files. The corrupted files may not be able to open.

Response: Do not remove the corrupted files right away, try to recover the data using software like Recuva, Puran, or Disk Drill. The program may help recover some lost or damage files. Save often, test often, and wait for the save to finish before shutdown the program.

Contingency plan: Use the backup files and try to recover the files with the software.

Insurance: Make back up of the file your working on, two or three versions. If the project is large, keep a few copies at different location, such as USB flash drives or different computer. Run anti-virus scan regularly.

Server Crash

Probability:

Minor

Impact:

Significant

Priority:

Minor

Risk: The school server can crash unexpectedly, causing the computer which is connected to stop working.

Project impact: Stop the work flow of the project, may also impact communication and program development significantly.

Consequences: Halting the development process for the Oculus Rift, delaying deliverables.

Response: Prepare a backup way of communication and programming options.

Contingency plan: Because the symptom is a problem outside of our control, there is not much the team can do, except to doing their best to prevent a crash from having too much impact to the project.

Insurance: The leaders would have to try and get in contact with the team member and assign task that doesn't require the use of VR.

Communication

Probability:

Minor

Impact:

Significant

Priority:

Minor

Risk: The Slack server can go down.

Project impact: The team would lose all communication, cause the team to go blind.

Consequences: No communication between team member, because slack is the only tool that all the team member shares.

Response: Project manager acquires all the team member's contact information for immediate transfer.

Contingency plan: Project manager contact all team member to transfer to the backup, already establish communication tool.

Insurance: Create a backup communication tool that team can use when the main tool is down. Backup all communication.

Group Risks

Illness

Probability:

Moderate

Impact:

Moderate

Priority:

Moderate

Risk: Team member catching the flu or other illnesses.

Project impact: The impact depends on the response of the team, if the team keep up with the response plan, then the impact can be negligible. It will also depend on how long the sickness will last.

Consequences: The only major problem to the project is losing a team member for the duration of the sickness.

Response: The best way to help lower the impact of the risk is to have everyone know what each person is doing. For that to happen require multiple pair program and code review or all the team member, we can add a request page for pair programming.

Contingency plan: Because the symptom is physical damage, there is not much the team can do, except to do their best to preventing risk from doing too much impact to the project.

Insurance: The team leader would have to be insuring that pair programing and code review is taking place.

Holidays

Probability:

Minor

Impact:

Minor

Priority:

Moderate

Risk: Holiday is a common occurring event, and is something that the group can expect. The risk is only when they team member is traveling somewhere far away or doing something involve high risk that the risk would occur.

Project impact: The impact is minor for normal holidays, but It might grow when holiday become closer to due date.

Consequences: The only major problem with the holidays is unscheduled holidays, and response plan not being meet.

Response: The best way to help lower the impact of the holidays, is to have a code review or a pair programming section, for the people that will be hard to get in contact with during the holiday, that way the rest of the group can back them up if something happens that will cause them to extent their trip and delay their involvement back into the project.

Contingency plan: Because the symptom is physical problem, there is not much the team can do, except to do their best to preventing risk from doing too much impact to the project.

Insurance: The team leader would have to be ensuring that pair programing and code review is taking place.

Drop Class

Probability:

Minor

Impact:

Significant

Priority:

Minor

Risk: The team member dropping the class for reasons like they are in a very bad team environment, life issues, and many unforeseen issues,

Project impact: The impact to the project would depend on their position in the team, but either way it would be significant. Losing a member can sometime destroy a project if it is not handled well.

Consequences: The major problem would be if the team member left the group without giving the team ahead notice, the impact would be increase dramatically.

Response: The best ways to prevent dropping class from happening, and doing too much impact is to try, and find out each member's concern and problem they might have with the project and in other field, only if they are willing to share.

Contingency plan: Because the symptom is physical problem, there is not much the team can do, except to do their best to preventing risk from happening and doing too much impact to the project.

Insurance: The leaders would have to be trying to talk to the team member and keep update to the status of the team members.

Hacking

Probability:

Minor

Impact:

Significant

Priority:

Minor

Risk: The most like hack are DDoS (Distributed Denial of Service), Trojan Horse (Disguised Software), Virus, Websites, and Worm.

Project impact: Slow down work flow, and delay due date, which messes with schedule, and add work load to the team. Potential loss of files.

Consequences: DDoS take away user's ability to use any network related task. Trojan Horse take away the user's ability completely and allow the hacker to do whatever they want with it. Virus try to attack the user's system. Malicious Websites help the other attack to get into your system. Worm is hidden attack that is a combination of DDoS and virus attack.

Response: Hacker hack your computer for a reason, so the way to avoid being hack is not to give that person the reason. Try not to make enemies, type your password in public, and have protection software active. Enemy may hack you out of spite, and just seeing the amount of digit the password have may give someone the curiosity to try.

Contingency plan: Immediate transfer of all your personal files, and project file to a removable storage. Then try to locate and remove the threat.

Insurance: Backup all the important files, and prepare removable storage.

Client Leaving

Probability:

Minor

Impact:

Significant

Priority:

Moderate

Risk: Client have a financial crisis. Political disruption between the client and the team, or the client hires another team. The product lost value and client lost interest. Failure to meet a major part of the project.

Project impact: Cost the entire project, wasted time, progress, data, and money.

Consequences: Lose relationship, time, and money. Entire project dissolved.

Response: Come up way to compromise and allow the client to spend less. Show the client the product at different period to keep the client interested. Be as honest and direct as possible. Try not to fail on any major parts, and work hard to make up the damages if there were accidents. Keep in contact, don't neglect the client.

Contingency plan: Use the agreement to make a deal and come up with a plan that both party agrees with.

Insurance: Make a policy agreement that help insurance the support of the client.

Due Date

Probability:

Moderate

Impact:

Significant

Priority:

Significant

Risk: Miss due date. Approaching due dates with too many tasks. Under estimate the work load of the project and over estimating yourself. Fail to adjust according to the Triage Team's plan.

Project impact: May create a butterfly effect and make the subsequent due date to not be met as well, delaying other parts of the project. May increase the chance of other risks occurring. Cause stress to the team.

Consequences: Overdue hand in. Decreases the team's morale, increasing stress and workload for the next part of the project.

Response: Create a check list to help identity what is the next item that needs to be finished. Create a calendar that notes all the important due date and events. Don't under estimate the work load, and manage your time accordingly.

Contingency plan: The Triage Team will take in charge and the team will follow the emergency plan to accomplish as much as possible without decreasing the quality of the product for the upcoming due date.

Insurance: The Triage Team will create an emergency plan when the due date is approaching.

Important website cited:

Eye strain in VR:

https://essilorusa.com/content/essilor-usa/en/newsroom/news/virtual_reality_bad.html