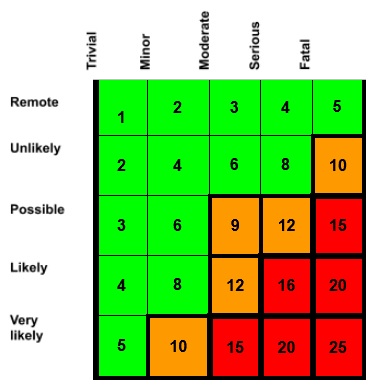
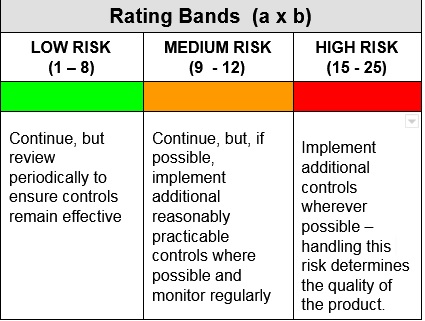
**Risk Assessment Key**

The Matrix interprets values for the severity of the risk (a) and likelihood of occurrence (b)  
(taking into account the frequency and duration of exposure) on a scale of 1 to 5,   
then multiply them together to give the rating band:

|  |  |
| --- | --- |
| Hazard Severity (a) | Likelihood of Occurrence (b) |
|
| 1 – Trivial (eg formatting issue, no impact on functionality or users) **2 – Minor** (eg may impede functionality)  **3 – Moderate** (eg minor security hazard or may cause build to break)  **4 – Serious** (eg project security vulnerability or build will break)  **5 – Fatal** (eg important sensitive information leaks, or multiple above) | **1 – Remote** (almost never)  **2 – Unlikely** (occurs rarely)  **3 – Possible** (could occur, but uncommon)  **4 – Likely** (will likely occur)  **5 – Very likely** (will occur) |

The risk rating (high, medium or low) indicates the level of response required to be taken when designing the action plan.

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| --- | --- | --- | --- | --- | --- | --- | --- |
| # | Risk Description | Cause | Risk Event | Severity  A | Likelihood  B | A x B | Additional controls required |
| 1 | **Computer use**  Eye strain, RSI, etc. | Spending long times working on a computer may cause minor health issues, particularly when personal media consumption is increased due to quarantine. | Repetitive Strain injury / Eye strain / other conditions may occur by spending too much time seated, working on a screen. | 2 | 3 | 6 | Ensure the workplace is appropriate for spending large amounts of time – appropriate seat & adjustable monitor height. |
| 2 | Lack of technical understanding | With many different technical methods, and little time to practice them, employing them correctly under the immense time pressure will be challenging. | Failure to implement methods correctly may result in long term build incompatibilities & failures, security hazards or loss of functionality. | 3 | 3 | 9 | Consult experts where needed – ensure MVP is in line with technically less challenging concepts. |
| 3 | Burnout/Personal health | Quarantine and intense schedule affects everyone’s mental fortitude. Burnout can happen easily with the factors associated with heavy deadlines, little social contact and limited exercise. | Burnout will result in a complete lack of time management, and given that it is an individual project, this will result in a drastic drop in completion of the product. | 4 | 2 | 8 | Exercise regularly, socialise virtually and ensure a healthy work-life balance. |
| 4 | Covid-19 | Currently in the midst of the Covid-19 pandemic, which is heavily disruptive to way of life. | May put stress on online services or disrupt functionality through other unforeseen side effects. | 3 | 1 | 3 | The situation seems to be under control and the software development industry is largely unaffected in comparison to others. |
| 5 | Security & data safety | it is important to ensure no personal information is leaked, and that the system is safe from intrusion. | MySQL GCP instances are frequent subject to hack attacks. GitHub repository is set to public, so information is readily accessible to anyone. | 2 | 2 | 4 | Ensure GitHub only shares harmless information – back up data in order to be able to reinstate database in case of hack attack/error. |
| 6 | Team Coordination | With the use of Github, team coordination is essential to avoid collisions and loss of time due to coordination related problems instead of practical problems | Huge amounts of time lost due to merge conflicts and duplicate code events, such as two team members working on the same task without realizing | 2 | 3 | 6 | Constant communication amongst team members on tasks being performed and when merges are occuring/when git pulls are required. |
| 7 | Front end template | With time constraints in mind, a template was used for the front end with incorporated CSS | Colossal loss of time due to reconfiguration of template, inability to test using Selenium due to template structure | 2 | 3 | 6 | Constructing elements with testing in mind and spending time to understand the CSS components of the front end. |
| 8 | API credit depletion | The API’s used for getting the most recent movie releases have a limit on calls per day. | If not kept in mind, it is possible to use up API access credit, leading to no further API related work being possible that day | 3 | 3 | 9 | Avoiding unnecessary calls to API’s when developing and testing to avoid a locked out of the API scenario. |
| 9 | Web hosting credit depletion | Use of GCP to host a website requires credit, which ticks down whenever in use. | Website no longer able to be accessed or used, which is core to the project specification | 3 | 3 | 9 | Avoiding unnecessary web traffic to the site, using the website version only when essential, instead using a local variant whenever possible. |
| 10 | Misinterpretation of requirements | Conflicting interpretations of the requirements within the team during the project | Missing the completion of project by its required end product defined in the specification | 4 | 2 | 8 | Frequent sprint meetings checking progress on the project against requirements, and consulting with product owners when unsure about what requirements are specifying. |
| 11 | Loss of internet | Due to the current pandemic scenario, the project is being worked on entirely over the internet, relying on internet based communications. Internet providers have been struggling in the current climate to provide reliable services. | Missing one or more team members due to connectivity issues, which can potentially create blockers over the course of the project. | 2 | 3 | 6 | Having backup methods of communication that are not reliant on internet connectivity, such as mobile phone applications and texting if necessary. |
| 12 | Business falling into administration | Currently the pandemic has seen a multitude of businesses fall into administration and cancel projects, or call for staff redundancy | Project being rushed out early to clients in minimum viable product state or earlier, releasing a half finished product with bugs and associated risks | 4 | 2 | 8 | Ensuring that the minimum viable product state of the application is functional and fits the end users/companies requirements, and reaching this state swiftly and cleanly. |
| 13 | Library depreciation/alterations | Libraries change and update, sometimes changing functionality and syntax, which can occur overnight. | Functionality moving from a functioning state to a failing state despite previously working | 2 | 2 | 4 | Ensuring that in situations where functionality seemingly starts failing without explanation, checking the state of the libraries in use for updates and alterations to functionality. |

**Post-project Risk analysis**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| # | Risk Description | Cause | Risk Event | Severity  A | Likelihood  B | A x B | Post-Project evaluation |
| 1 | **Computer use**  Eye strain, RSI, etc. | Spending long times working on a computer may cause minor health issues, particularly when personal media consumption is increased due to quarantine. | Repetitive Strain injury / Eye strain / other conditions may occur by spending too much time seated, working on a screen. | 2 | 3 | 6 | This risk was minor and I did not suffer any serious side effects. Using dark mode was helpful to reduce eye strain. |
| 2 | Lack of technical understanding | With many different technical methods, and little time to practice them, employing them correctly under the immense time pressure will be challenging. | Failure to implement methods correctly may result in long term build incompatibilities & failures, security hazards or loss of functionality. | 3 | 3 | 9 | This risk was relevant in both shaping the project MVP and implementing it. I acquired help from Jordan where necessary, however there are parts of the code which require maintenance for long-term sustainability. |
| 3 | Burnout/Personal health | Quarantine and intense schedule affects everyone’s mental fortitude. Burnout can happen easily with the factors associated with heavy deadlines, little social contact and limited exercise. | Burnout will result in a complete lack of time management, and given that it is an individual project, this will result in a drastic drop in completion of the product. | 4 | 2 | 8 | This risk was more major than anticipated – many people, including myself showed symptoms of burnout over the past 1-2 weeks, both caused by the quarantine and heavy workload. It likely affected my time management. |
| 4 | Covid-19 | Currently in the midst of the Covid-19 pandemic, which is heavily disruptive to way of life. | May put stress on online services or disrupt functionality through other unforeseen side effects. | 3 | 1 | 3 | Having lived with the pandemic for a long time now, this risk was correctly identified as minor, although the potential of getting infected should have been included. Despite this, it had little influence on the project, and its main threat was the impact on mental health. |
| 5 | Security & data safety | it is important to ensure no personal information is leaked, and that the system is safe from intrusion. | MySQL GCP instances are frequent subject to hack attacks. GitHub repository is set to public, so information is readily accessible to anyone. | 2 | 2 | 4 | The database was backed up using a sql injection file, so the data was at no risk of being lost. Changing the git repository to public in the midst of the project did reveal my VM IP address and user details, however, which I should have remedied by storing them in a config file instead. |
| 6 | Team Coordination | With the use of Github, team coordination is essential to avoid collisions and loss of time due to coordination related problems instead of practical problems | Huge amounts of time lost due to merge conflicts and duplicate code events, such as two team members working on the same task without realizing | 2 | 3 | 6 | This risk was incredibly well managed by everyone involved in the team. Any changes made, any merges, were all aired by the team members through the entire project, and any issues that arose were solved as a team |
| 7 | Front end template | With time constraints in mind, a template was used for the front end with incorporated CSS | Colossal loss of time due to reconfiguration of template, inability to test using Selenium due to template structure | 2 | 3 | 6 | Template caused minimal issues over the course of the project, and required only minor changes to make it available for testing. |
| 8 | API credit depletion | The API’s used for getting the most recent movie releases have a limit on calls per day. | If not kept in mind, it is possible to use up API access credit, leading to no further API related work being possible that day | 3 | 3 | 9 | This risk appeared larger in the speculative phase of the risk assessment, but ended up being rather minor, and at no point was the credit per day cap reached. |
| 9 | Web hosting credit depletion | Use of GCP to host a website requires credit, which ticks down whenever in use. | Website no longer able to be accessed or used, which is core to the project specification | 3 | 3 | 9 | This risk ended up being higher than the risk of API call credit depletion, however the cap was not reached, thus the website remained online for the duration of the project. |
| 10 | Misinterpretation of requirements | Conflicting interpretations of the requirements within the team during the project | Missing the completion of project by its required end product defined in the specification | 4 | 2 | 8 | Over the course of the project, there were minimal issues with requirement specification, and requirements captures mixed with regular discussions with product owners solved any issues swiftly. |
| 11 | Loss of internet | Due to the current pandemic scenario, the project is being worked on entirely over the internet, relying on internet based communications. Internet providers have been struggling in the current climate to provide reliable services. | Missing one or more team members due to connectivity issues, which can potentially create blockers over the course of the project. | 2 | 3 | 6 | During the project there were a few instances of team members having internet connectivity issues, however the impact to the project was minimal, and the availability of alternate methods of communication were always available. |
| 12 | Business falling into administration | Currently the pandemic has seen a multitude of businesses fall into administration and cancel projects, or call for staff redundancy | Project being rushed out early to clients in minimum viable product state or earlier, releasing a half finished product with bugs and associated risks | 4 | 2 | 8 | This risk was a non factor over the course of the project, there have been no signs of this event occurring, but it was good to keep in mind when developing a minimum viable product. |
| 13 | Library depreciation/alterations | Libraries change and update, sometimes changing functionality and syntax, which can occur overnight. | Functionality moving from a functioning state to a failing state despite previously working | 2 | 2 | 4 | Risk was correctly identified, as there were some minor issues revolving around google driver updates during the course of the project. Nothing too catastrophic occurred due to this risk |