**Risk Analysis for Automatic stock management system for a maintenance company project.**

**There are many variations of risk management workflows but the key features will feature in all are: Identification, Priority, Planning and Monitoring**

**Identification-** Below we have identified the risks we believe create a threat in the development of our app, and listed them in a project register. Success/ By? Would be filled in IF the risk actually occurred and action was necessary. The greatest impact and probability have been put in **bold**.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Risk** | **Description** | **Impact** | **Probability of occurrence** | **Severity** | **Category** | **Risk- Action** | **Success? By?** |
| **1** | **Late changes to requirements.** | **System changes will need to be made accordingly otherwise the end product won’t be to the clients’ needs. Could be unworkable.**  **Delays to finish date and increase in cost.** | **Likely (7)** | **7** | **High** | **Contingency plan (REDUCE)- Incremental development and prototyping. This is why we will be using the spiral model. Gives the client the chance to adapt the system.**  **Build time in to schedule** |  |
| **2** | Delay to hardware availability to start coding | Delay to expected finish as implementation cannot take place till hardware is available. | Unlikely (3) | 4 | Medium | Contingency plan (REDUCE) - Build in time schedule. Hardware should be being prepared during the initial stages, given if there is still a delay it would be ready in time for implementation. |  |
| **3** | Android tablet unavailable | Delay to final finished time. As testing and installation couldn’t take place. | Very Unlikely (1) | 10 | Low | RETAIN- As there is a low chance of this happening as android tablets are widely available. Also this shouldn’t be an issue especially as installation could take place on a smart phone running android. |  |
| **4** | Budget overrun | Whole project could come to a standstill | Very unlikely (1) | 10 | Low | Contingency plan (REDUCE) - Where can costs be cut?  -Use similar projects to base cost and analysis (Cost benefit analysis) |  |
| **5** | **Part of software engineering team fall ill** | **Delay to project, depending on how serious.** | **Likely (8)** | **3** | **Medium** | **Contingency plan (REDUCE) - Can someone else take over there role?**  **Risk built into schedule** |  |
| **6** | **Development technically to hard (Poor project planning/ feasibility study)** | **Delay to overall project, dependant on how serious could bring project to a stop.** | **Unlikely (3)** | **8** | **Medium** | **Contingency plan (REDUCE)- Training?** |  |
| **7** | Rival company launch similar product | Reduces the need of the app. As the app will be already available. | Very unlikely (1) | 5 | Low | Contingency plan (REDUCE)- Monitor competitors i.e. Amalgame |  |
| **8** | New version of android released | Could change requirements and design if features have changed for development in new release | Very Likely (10) | 2 | Medium | Contingency plan (REDUCE)- Software engineering team should be equiped to deal with changes, training maybe required. |  |
| **9** | Finished app not as expected | App becomes unusable | Unlikely (2) | 10 | Medium | Retain- It has high consequences but as we’re using the spiral model this should never happen as prototypes are created for clients to review. |  |
| **11** | Software engineers never implemented an android app | Software production time could be extended | Very unlikely (1) | 8 | Low | Contingency plan (REDUCE)- Training during initial stages where coders are not required |  |
| **11** | Client wants app for Apple Products (ITunes) | Huge delays as software team could have never worked with Apps for Apple. May not be possible | Very unlikely (1) | 10 | Low | Avoid- If software team does not know how to implement a app for apple. Avoiding would be the last resort; first training would be built into a contingency plan. |  |

**Priority-** Above we look at the probability of occurrence, severity and category as this allows us to see which risks are likely to occur. To determine the chances we used a risk matrix.

(Yardley, D, 2002)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Severity of Impact | Probability of event occurring | | | |
|  | Very Unlikely < 10% (1) | Unlikely 10%-50% (2-5) | Likely 50%-90% (5-9) | Very Likely >90% (10) |
| Low (1-2) Minor Impact. No impact on benefits. | Low | Low | Low | Medium |
| Medium (3-5) Major impacts. Some impacts on benefits | Low | Medium | Medium | High |
| High (6-10) Major impact on benefits and project may longer be viable | Low | Medium | High | High |

Using the risk matrix we also worked out the risk exposure = (**Probability of occurrence X Severity).**

|  |  |  |  |
| --- | --- | --- | --- |
| **Risk** | **Probability Occurrence** | **Severity** | **Risk Exposure** |
| **1** | **7** | **7** | **49** |
| 2 | 3 | 4 | 12 |
| 3 | 1 | 10 | 10 |
| 4 | 1 | 10 | 10 |
| **5** | **8** | **3** | **24** |
| **6** | **3** | **8** | **24** |
| 7 | 1 | 5 | 5 |
| 8 | 10 | 2 | 20 |
| 9 | 2 | 10 | 20 |
| 10 | 1 | 8 | 8 |
| 11 | 1 | 10 | 10 |

**Planning-** In the risk register the Risk Action is the planning we have decided for each risk we have identified how to deal with them with Avoiding, Reducing (contingency plan), Retain or transfer. See project planning to see us taking risks in to account for our project.

**Monitoring-** We will repeat the Identification and planning throughout the process of building the project this will allow us to check that original risks have been dealt with and that new ones have been observed/noted.

**References:**

Yardley, D. (2002) *Successful IT Project Delivery: Learning the Lessons of Project Failure*. London: Addison Wesley. p.p.148

**Bibliography:**

Hughes, B. Cotterell, M (2005) *Software Project Management*. 4th Edition, Maidenhead: McGraw-Hill Higher Education.