**Risk Plan**

1. Risk identification

Risk identification is used to identify threats to the project plan and predictable risks. Only by identifying these risks can the project manager (PM) avoid them and, if necessary, control them.

Risks can be divided into two categories: general risks and specific risks. General risk is a potential threat that can be found in almost every software project. Specific risks can only be recognized by those with skills in technology, human resources, and the project environment. To identify a specific risk, you must examine the project plan and software scope to see if there are any anomalies in the project that could affect it. General and specific risks should be systematically identified.

Risk identification includes the identification of internal and external risks. Insider risks are risks that the project team can control and influence, such as personnel appointments and cost estimates. External risks are risks that the project team cannot control and influence, such as market shifts or government actions.

2. The fundamental nature of risk

2.1 Objectivity

First of all, the objectivity of risk is manifested in its existence that is not transferred by human will. Because the factors that determine risk are independent of the risk entity. Whether the risk subject is aware of the existence of the risk or not, the risk may become a reality under certain conditions. Second, the objectivity of risk is also manifested in the ubiquity of risk and potential multiple activities.

2.2 Uncertainty

The uncertainty of the risk is reflected in its severity. When and where risks can become real. Because people's understanding of the objective world is subject to various conditions, we cannot accurately predict the occurrence of risks.

2.3 Disadvantage

Once the risk occurs, it will make the risk subject frustrated, fail or even lose, which is unfavorable to the risk of the subject. Therefore, we should make decisions based on awareness and understanding of risks. We should avoid risks and minimize the adverse factors of risks.

2.4 Variability

Variability reflects the risk that can be transformed under certain conditions. Risk events can be converted into non-risk events and vice versa.

2.5 Relativity

The relativity of risk is specific to the risk subject. In the same situation, different risk subjects have different ability to bear risks, and different organizations and individuals often have different risk tolerances. One organization may consider the 15% probability of error to be high risk, while others consider the risk to be very low.

2.6 Symmetry of risk and return

Risk and benefit coexist. Risk is the price of interest, and interest is the reward of risk. No one will do anything without risk. To realize the benefits, you must take certain risks.

3. Countermeasures in our projects

The risks of our projects are mainly requirements risks, process risks and technical risks. In order to avoid these effects of these risks, we have developed a risk list, listing possible risks as much as possible and proposing solutions to prevent losses.

3.1 List of demand-related risks

Products are the only way to test the success of our projects. Therefore, ensuring that the product meets the requirements is the most important part and should be put first. In our project, our project will face the following problems:

1）Lack of clear understanding of the product

It is crucial to fully understand the requirements before embarking on a new project. If the requirements are not met, the project will not succeed. To address this risk, several detailed face-to-face meetings are essential. Only through communication with employees and customers can managers understand what they should do.

2）Lack of an effective requirements change management process

A requirement is not a series of files that will not change. The initiator of the demand is the customer, and the demand will change at any time according to the market change. An effective requirements change management process can solve this problem perfectly. But how to make such a process? Our solution is to conduct research in advance of new requirements, obtain the level of recent projects and demand distribution, and develop emergency measures in advance to meet the latest requirements with minimal changes.

3）Unsure of demand

Our projects are divided into front-end and back-end, and APIs or requirements may change at any time during development. In order to avoid this situation, if there is a place that needs to be modified, the place where it is modified should be communicated and discussed in a timely manner.

3.2 Checklist of technology-related risks

Technology-related risks are always on everyone's radar. We are also very concerned about the risks involved in this section.

1）Someone to support it: Since all members are full-time graduate students, there is a high probability of no to it. So we have to train our developers first so that they can adapt to our project. Such a decision would significantly slow down the development process.

2）Enough manpower: Actually, no, there are three people in our team, and we can complete the task during the project development process.

4. Risk management plan

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| No. | Risk events | Possibility | Effect | Countermeasure |
| 1 | Not enough time for product development | 60% | 50% | 1. Take an overtime approach  2. Modify the plan  3. Remove some tasks  4. Discuss with the customer to extend some time |
| 2 | There are no test cases that fit your needs | 20% | 20% | Modular development, each function is tested individually |
| 3 | Insufficient technical support | 30% | 10% | 1.Train developers  2.Look for technical guidance  3.Take a development and learning approach, requiring them to master the technology within a specified time |
| 4 | Uncertain demand leads to a change in demand | 80% | 20% | If there is a place that needs to be revised, the place where it should be revised should be communicated and discussed in a timely manner. |
| 5 | Risk of secondary outbreaks | 60% | 20% | Be ready to switch to online collaborative development at any time, do a good job of psychological construction of team members, and communicate and understand each other |
| 6 | HR risk | 50% | 20% | 1. Carry out targeted training  2. Arrange the right people to the right positions |