1. Project initiation Management

1.1 Proposal for establishment

The goal of the project has been determined, that is, to develop an app that can help users find appropriate shared rooms.

The marketing department conducted market research on the rental app that has been launched in the current application market, and determined that there are more rental applications, less applications specifically for joint rental, and the product is in the medium-term development stage of the market.

This project has determined to use Android Studio and MySQL as key technologies, which are relatively simple and quick to implement.

The project has high market demand. Through a questionnaire survey of college students within ten years after graduation, about 60% of them choose to rent together, and about 30% of them choose according to the situation.

1.2 Project appraisal

After inviting some random target users, senior experts, marketing personnel, financial personnel and technical experts to form a review committee, they vote by analyzing the feasibility report of the project. The voting results agree with the project.

1.3 Project preparation

A three person project team has been formed around the project. The project has obtained 200000 project funds and purchased necessary facilities such as servers.

2. Project closing management

The project is still in the stage of iterative updating. The income and asset liquidation cannot be accurately estimated so that the project closing management cannot be completed. After that, carry out the project assets review, establish the project closing Review Committee, and carry out the project evaluation and experience summary.

3. Project planning

3.1 Project estimates

3.1.1 Estimate the scope of the project

The initial establishment of a relatively complete search system for shared rooms is mainly composed of three subsystems, i.e. release of houses, inquiry of houses and community making friends.

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| --- |
| Sharing Room  Publish House source  Query house source  Mood interaction  Experience communication  house commendation  sublease house  house owner publish  identity review  house authentication  Make friends in community |

3.1.2 Estimated estimates of work product

|  |  |  |
| --- | --- | --- |
| Components of the product | Scale of new development components  (document pages) | Size of reused or auto generated components  (document pages) |
| Listing certification | 5 | 2 |
| Identity review | 4 | 1 |
| Homeowner release | 2 | 1 |
| Sublease sources | 2 | 1 |
| Housing recommendation | 4 | 2 |
| Experience world | 2 | 1 |
| Mood exchange | 2 | 1 |
| the sum | 21 | 9 |

3.1.3 Workload estimation

|  |  |  |
| --- | --- | --- |
| Estimate the workload of project R & D | | |
| Estimation formula | Project R & D workload ≈ scale of newly developed components \* difficulty coefficient / per capita productivity | |
| Scale of new development components | 3Man Month | |
| Degree of Difficulty | 3 | |
| Per capita productivity | 1Man day | |
| Project R & D workload | 66 | Subdivision: demand development workload ≈ 10  System design workload ≈ 15  Programming workload ≈ 25  Test workload ≈ 16  …… |
| Estimate the workload of project management | | |
| Estimation formula | Project management workload ≈ project R & D workload \* proportion coefficient | |
| Proportionality coefficient | 1/2 | |
| Project management workload | 33 | Subdivision: project planning workload ≈ 6  Project monitoring workload ≈ 6  Demand management workload ≈ 13  Risk management workload ≈ 8  …… |
| Estimate the amount of work supported by the mechanism | | |
| Estimation formula | Institutional support workload ≈ project R & D workload \* proportion coefficient | |
| Proportionality coefficient | 1/2 | |
| Workload of mechanism support | 33 | Subdivision: configuration management workload ≈ 5  Quality assurance workload ≈ 10  Outsourcing and procurement workload ≈ 5  Training management workload ≈ 13  …… |

3.2 Develop project plan

3.2.1 Project expected schedule

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Task name | Start and stop time | personnel | workload | Expected results |
| Demand analysis and project management | Week 1-6 | Yang Caipiao | 33 | project planning paper |
| System design and coding implementation | Week 7-19 | Hole vertical culvert | 66 | App and design documents |
| Configuration management and software maintenance | Week 20-26 | Song Yalou | 33 | Complete training and procurement |

3.2.2 Plan for needed knowledge and skills

|  |  |
| --- | --- |
| Process area | Methods and tools |
| Rational Rose | Object oriented analysis and design |
| Android Studio | software development |
| Mysql | Database support |
| Visual SourceSafe | configuration management |
| Microsoft Office | Document production |

3.3.3 Plan for project resources

|  |  |  |
| --- | --- | --- |
| role | duty | personnel |
| project manager | Responsible for organizing the operation of the project, conducting market research, demand analysis and feasibility analysis in the early stage of the project | Yang Caipiao |
| Developer | Responsible for software design, writing design documents and development code | Hole vertical culvert |
| Maintenance Engineer | Responsible for software service and maintenance to ensure software quality | Song Yalou |

3.3 Approve project plan

The project manager submits the project plan to the user for approval.

4. Project monitoring and control

The project is in the initial development stage, which is consistent with the project plan at present, so there is deviation.

5. Risk management

|  |  |  |
| --- | --- | --- |
| Risk types | There are risks | Circumvention method |
| Schedule risk | Due to time constraints, the project can not be completed on time. | Take full account of all potential factors and leave room appropriately; the task decomposition shall be detailed and easy to assess; during the implementation process, it is necessary to emphasize the important items of the project implementation according to the schedule, and keep the schedule as the precondition when any problems are considered; at the same time, make full use of resources through reasonable use of the methods such as time limit and quick follow-up. In case of any delay, the project manager shall communicate with the client in time and apply for the extension time. |
| The system does not have enough test time | Continuous monitoring, project progress control with the progress of the project, to ensure that each link has enough time. |
| Technical risk | There are some problems in the development of software structure system, which makes the finished software products fail to achieve the expected objectives of the project | Development with genuine software |
| The lack of in-depth understanding of the development software results in poor performance and quality of the developed products. | Make a two-week learning plan in advance. All team members should learn the development tools Android studio + MySQL and Photoshop quickly.Grasp the key points as soon as possible. At the same time, the difficulty of software design should be reduced as much as possible so that the project can be completed successfully. |
| Quality risk | Quality does not meet user requirements | Communicate work results with users frequently, adopt development process that meets requirements for brand management, conscientiously organize inspection and review of output, plan and organize strict independent test, etc. |
| Tool risk | Management tools, development tools and test tools necessary for software project development and implementation are not in place in time | In the start-up phase of the project, the source of various tools or possible alternative tools shall be implemented, and the tools shall be tracked and put in place before they need to be used.Before the project development, the infrastructure of the system is designed and built and the performance test is carried out to ensure that the architecture meets the performance indicators before the subsequent work. |
| Human resource risk | Members of the team were unable to participate in the design due to an accident | Discuss solutions with users in advance |

6. Demand management

6.1 Demand confirmation

The project manager shall organize personnel to conduct informal requirements review within the project to eliminate obvious errors and differences. The project manager invites peer experts and users (including customers and end users) to review the requirements documents together, and makes every effort to make the requirements documents accurately reflect the real wishes of users. After the requirement document passes the formal review, the developer (Project Manager) and the customer make a written commitment to the requirement document to make it have the effect of commercial contract.

6.2 Requirements change control

The request change applicant shall write "request change application form" and submit it to the project manager or the person in charge of the client. The "request for change" must state: (1) the reason for the change; (2) the content of the change; (3) the impact of the change on the project.

The person in charge of the developer (Project Manager) and the customer jointly approve the "request change application", and the demand analyst changes the "original requirement document" to generate a new requirement document. Conduct requirements review again to obtain written requirements commitment.

7. Requirement development

The demand development of this project includes user demand survey and product demand definition. Through a random questionnaire survey of all college students and graduates within ten years of graduation, we find that the user group has a large demand for housing and rental; The technical of our company experts refine the user demand specification, and then use rational rose Engineering. It can model and analyze the more complex user requirements, and finally get the accurate product requirements.

8. Technology pre research

Technical pre research personnel determine the content and target of technical pre research according to the technical of our company needs and technical scheme to identify the technical problems in the project. At present, the project has not been tested, but our technical experts predict that it will face problems such as slow network transmission rate, slow concurrent execution efficiency, slow background operation efficiency and slow database reading efficiency.

9. system design

System design refers to the design of software system architecture, user interface, database, modules, etc., so as to build a bridge between requirements and codes, and guide developers to achieve software products that can meet user needs. In this project, architecture design, user interface design, database design and module design have been completed.

The architecture adopts Android development technology and Android studio for development; the user interface adopts UI design technology and Axure for more systematic and complete interface design; the database design adopts MySQL to access data; the system mainly includes three subsystems: Publishing House source, querying house source and making friends in community.

10. Implementation and testing

After testing, the joint rental system can achieve three modules: Publishing House source, querying house source, making friends in the community, publishing house source module can realize house source authentication and identity review, querying house source module can realize house owner publishing, subleasing house source and house source recommendation, and community making friends module can realize experience and mood exchange.

11. System testing

System test is a comprehensive test of the project to ensure that the final software system meets the product requirements and follows the system design. At present, the project can roughly meet the needs of customers and complete simple system test. Next, our company will further improve.

12. Beta test

Our product has not been officially launched, and is currently in beta testing stage. We will deliver the product to some potential customers for free trial. Please ask them to test the product and get their suggestions for the product.

13. Customer acceptance

Customer acceptance refers to that the customer reviews and tests the product according to the contract to ensure that the product meets the technician needs; at present, our product has not been launched yet, and the customer acceptance has not been completed.

14.Project review

As for the technical review of the project, there is no definite technical review specification. But through the process of program development, it is similar to the "informal review (ITR)" method, that is, internal review in the technical department. There is not a good guarantee for the quality of products.

15.configuration management

Configuration item (CI), which includes two categories: (1) the work results that are part of the product, such as requirements document, design document, source code, test case, etc.(2) documents generated from project management and institutional support process areas.

The project itself has relatively complete configuration items, and the requirements documents, design documents, source code, test cases, etc. are relatively complete and easy to find and watch. The project uses Maven for code hosting, which can better trace the historical code.

However, the project itself has not formed a better development plan. Although it has a better configuration item, it has not set a reasonable milestone. At the same time, it lacks the position of configuration administrator. Configuration items are in the state of common maintenance and management. In the post iteration process, relevant configuration management personnel and configuration management regulations should be established.

16.Quality assurance

At present, there is no systematic rule method for project quality assurance. Only through the development of developers to test the results, while not strictly implement the unit test, integration test, system test, acceptance test and a series of test standards. The experts and technicians of the same profession did not conduct effective review on the work, and could not effectively find the defects in the work results. In the later work, the corresponding quality assurance team and quality assurance specifications should be set up, and the quality process should be tracked.

17.Service and maintenance

The implementation of the project in the corrective maintenance stage is not in place, and the problems of users in the using process cannot be well collected. You need to study how to collect problems in the next process. Consider reallocating human resources within the development team to support customer service or product maintenance processes. Planning and reporting documents for customer and product maintenance are also essential.