
CSCI814 GROUP PROJECT

Title: Book circulation management system

Group Members (5): Yao XIAO, Jun WU, Ruochen LIU, Qi ZHU

2020-5-6

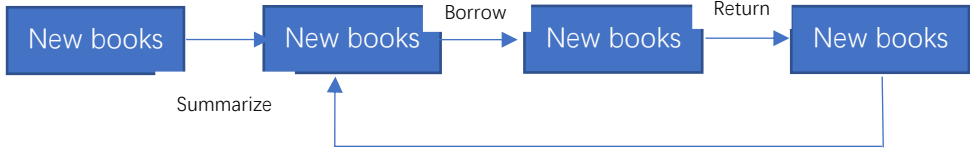
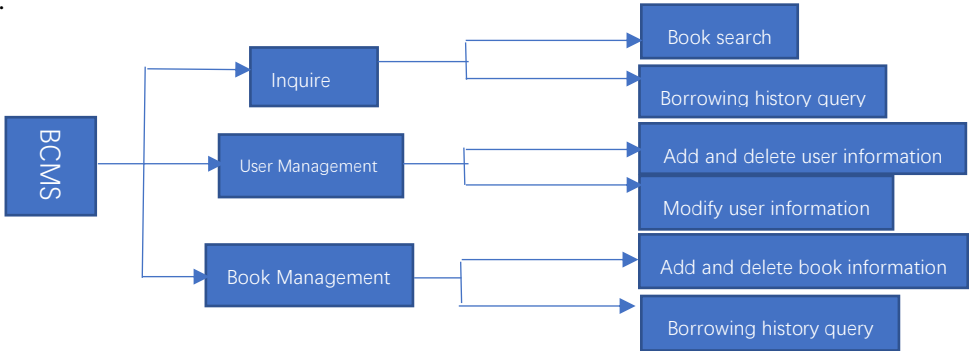
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1. Project charter

1. General Project Information				
Project Name:	Book circulation management system			
Executive Sponsors:	Lei Niu			
Department Sponsor:	UOW			
Start Date of project:	April 10			
2. Project Team				
	Name	Department	Telephone	E-mail
Project Manager:	Yao Xiao	CS	NA	xy998@uowmail.edu.au
Team Members:	Jun Wu	CS	NA	434922445@qq.com
	Ruochen Liu	CS	NA	liurchen@hotmail.com
	Qi Zhu	CS	NA	1315162115@qq.com
3. Budget Information				
There is basically no overhead for the project., because all development is completed by the team members. The only overhead is that the server consumption is about \$ 10.				
4. Project Scope Statement				
Objectives				
The main purpose of the project is to design a simple and stable library management system to serve UOW teachers and students.				
Main project success criteria				
The software must meet all known requirements and specifications, and at the same time be able to complete all tests as required. The project manager is able to synthesize good suggestions from all stakeholders.				
Key schedule milestones				
Milestone		Date		
Determine project direction and content		April 15		
Complete the initial version of software		April 20		
Adjust project structure while developing		April 20 - 30		
Complete the final version of software		May 5		
5. Approach				
<ul style="list-style-type: none">● Learn new technologies to complete project construction and optimization.● Within one month, develop clear work structure, scope statement and Gantt chart and other required tech.● Hold weekly review meetings with the project team members.● Use software testing technology to complete the test.				

6. Sign-off			
	Name	Signature	Date (MM/DD/Y YYY)
Executive Sponsor	Lei Niu	<i>Lei NIU</i>	05/05/2020
Department Sponsor	UOW	<i>UOW</i>	04/15/2020
Project Manager	Yao Xiao	<i>Yao XIAO</i>	04/15/2020
Team Member	Jun Wu	<i>Jun WU</i>	04/15/2020
Team Member	Ruochen Liu	<i>Ruochen LIU</i>	04/15/2020
Team Member	Qi Zhu	<i>Qi ZHU</i>	04/15/2020

2. Project scope statement	
Project Name: Book Circulation Management System	Project Manager: Yao Xiao
Team members: Yao Xiao, Ruochen Liu, Qi Zhu, Jun Wu	Date: May 5, 2020
Project Objectives: Successfully implemented a system for book borrowing and return.	
Design background: With the development of information technology, a large amount of information in library management can be managed more effectively under the impetus of information technology. The book circulation management system can adopt the modern information management method instead of the manual management method, which can improve the efficiency of the book management work and achieve the standardized processing of information. Through scientific statistics, records and inquiries, students can borrow and return books more conveniently. The library can also serve students better.	
Design scope: 1. Task Overview: After purchasing new books, the administrator summarizes the information of these books and then numbers each book. After the new book is numbered, add it to the shelf for student borrowing. If students need to borrow books, they need to log in to the system through the account password, and then search for the book they want to borrow, and then borrow the book through the borrow function. The system automatically records student borrowing information. The flow chart is as follows: 2.  <pre> graph LR A[New books] -- Summarize --> B[New books] B -- Borrow --> C[New books] C -- Return --> D[New books] D --> B </pre> 3. Basic software requirements: The function is divided into three parts: query and borrowing, user management and book management. The system works well. 4.  <pre> graph LR BCMS[BCMS] --> Inquire[Inquire] BCMS --> UserManagement[User Management] BCMS --> BookManagement[Book Management] Inquire --> BookSearch[Book search] Inquire --> BorrowingHistoryQuery1[Borrowing history query] UserManagement --> AddDeleteUserInfo[Add and delete user information] UserManagement --> ModifyUserInfo[Modify user information] BookManagement --> AddDeleteBookInfo[Add and delete book information] BookManagement --> BorrowingHistoryQuery2[Borrowing history query] </pre>	
Project constraints: Completed from March 2020 to May 2020	
Method of execution: The completion of the system is mainly done by team members with the help of Node tools.	
Project Delivery: 1. User login: Log in to the system through the account password. 2. New book registration: For new books, the system must have the function of entering book information. 3. Book information maintenance: If the book information changes, the data can be modified in time. 4. Borrowing and returning books: Students can borrow and return books through the system. 5. Student information management: The system can add, delete and modify student information.	

3. Project schedule

标识号	任务模式	任务名称	工期	开始时间	完成时间	前置任务	资源名称	基线 1 估计完成时间	7	10
1		Book Circulation Management System project development	15 个工作日	2020年4月15日	2020年5月5日			2020年5月6日		
2	✓	Project scope planning	4 个工作日	2020年4月15日	2020年4月20日		Rouchen Liu, Ju	2020年4月17日		
3	✓	Determine project scope	1 个工作日	2020年4月15日	2020年4月15日			NA		
4	✓	Define project resources	1 个工作日	2020年4月15日	2020年4月15日	3SS		NA		
5	✓	Analyzing software requirements	1 个工作日	2020年4月15日	2020年4月15日	4SS		NA		
6	✓	Group review of software	1 个工作日	2020年4月16日	2020年4月16日	5		NA		
7	✓	Modify project requirements based on feedback	0.5 个工作日	2020年4月17日	2020年4月17日	6		NA		
8	✓	Set delivery date	0.5 个工作日	2020年4月17日	2020年4月17日	7		NA		
9	✓	Obtain approval to carry out the work	1 个工作日	2020年4月20日	2020年4月20日	8		NA		
10	✓	Complete the analysis	0 个工作日	2020年4月20日	2020年4月20日	9		2020年4月17日		
11	✓	design	1.5 个工作日	2020年4月21日	2020年4月22日		Rouchen Liu, Ju	2020年4月23日		
12	✓	Develop functional specifications	0.5 个工作日	2020年4月21日	2020年4月21日	10		NA		
13	✓	Review of functional specifications	0.5 个工作日	2020年4月21日	2020年4月21日	12		NA		
14	✓	Modify specifications based on review	0.5 个工作日	2020年4月22日	2020年4月22日	13		NA		
15	✓	Complete the design	0 个工作日	2020年4月22日	2020年4月22日	14		2020年4月23日		
16	✓	The development work	5.5 个工作日	2020年4月22日	2020年4月29日		Rouchen Liu, Ju	2020年4月30日		
17	✓	Review functional specification	0.5 个工作日	2020年4月22日	2020年4月22日	15		NA		
18	✓	Division of functional modules (meeting)	0.5 个工作日	2020年4月23日	2020年4月23日	17		NA		
19	✓	Assign tasks to developers	1 个工作日	2020年4月24日	2020年4月24日	18		NA		
20	✓	coding	1.5 个工作日	2020年4月27日	2020年4月28日	19		NA		

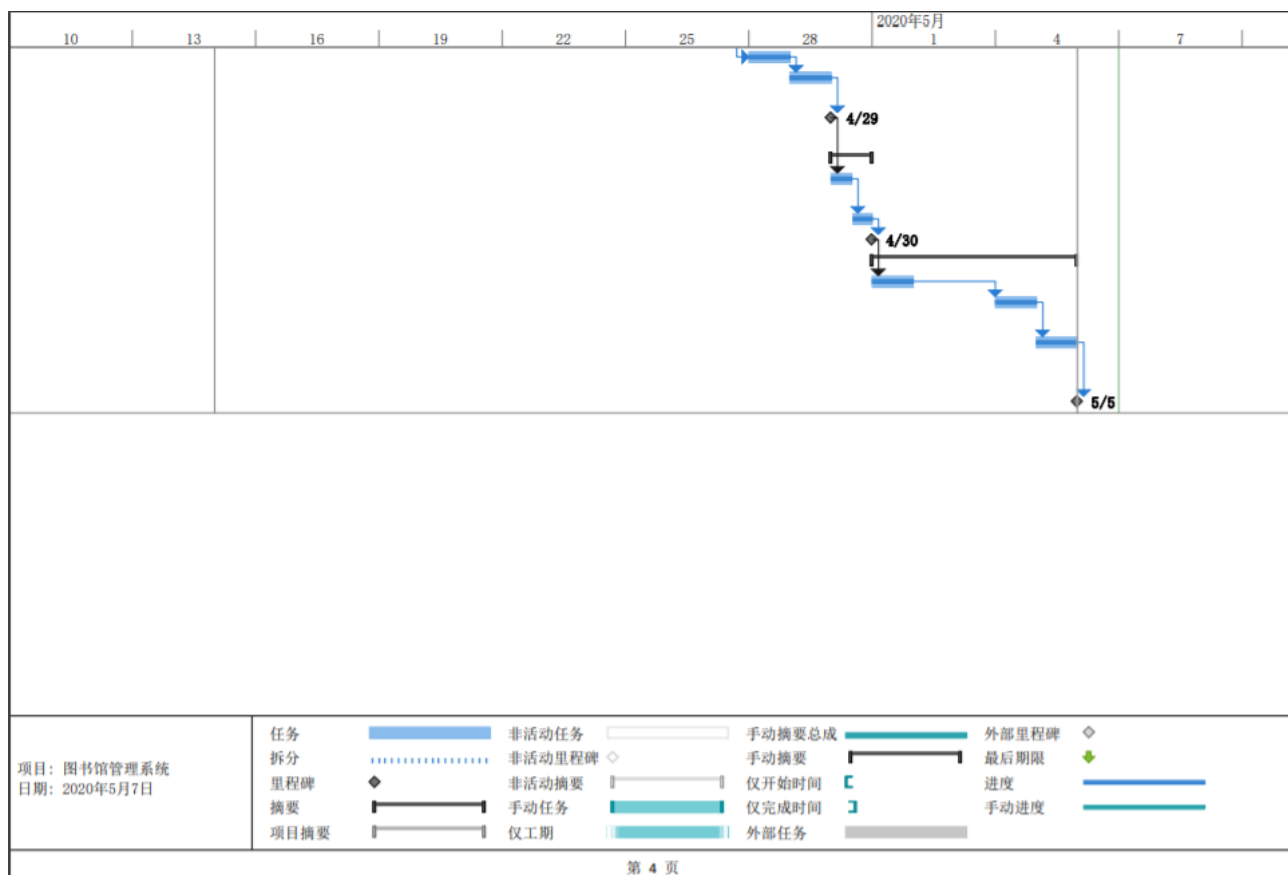
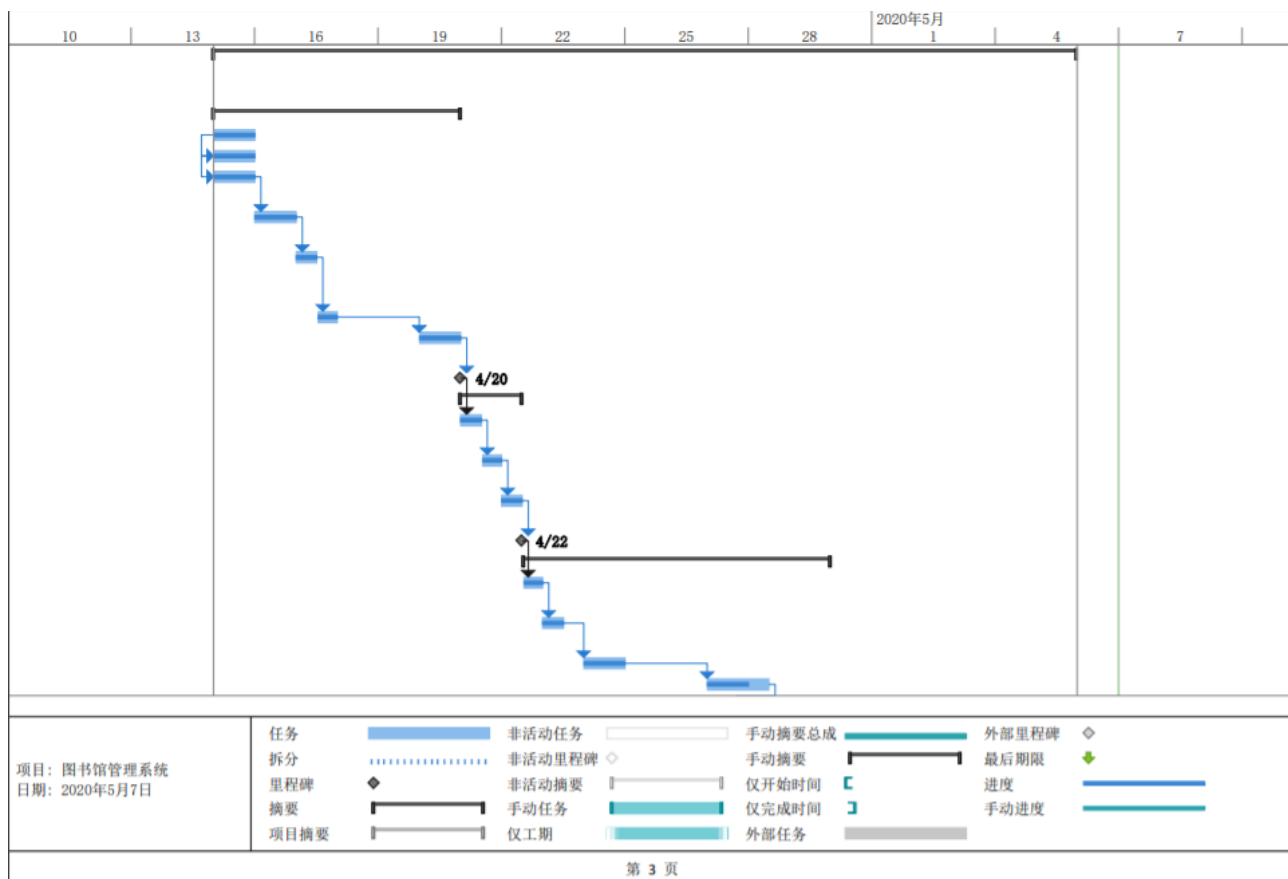
项目：图书馆管理系统 日期：2020年5月7日	任务		非活动任务		手动摘要	手动摘要	外部里程碑	
	拆分		非活动里程碑		手动摘要		最后期限	
	里程碑		非活动摘要		仅开始时间		进度	
	摘要		手动任务		仅完成时间		手动进度	
	项目摘要		仅工期		外部任务			

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标识号	任务模式	任务名称	工期	开始时间	完成时间	前置任务	资源名称	基线 1 估计完成时间	7	10
21	✓	Developer testing	1 个工作日	2020年4月28日	2020年4月28日	20		NA		
22	✓	Integrate various functional modules	1 个工作日	2020年4月29日	2020年4月29日	21		NA		
23	✓	Completion of development work	0 个工作日	2020年4月29日	2020年4月29日	22		2020年4月30日		
24	✓	test	1 个工作日	2020年4月30日	2020年4月30日		Rouchen Liu, Ju	2020年5月3日		
25	✓	Develop test plan (meeting)	0.5 个工作日	2020年4月30日	2020年4月30日	23		NA		
26	✓	test	0.5 个工作日	2020年4月30日	2020年4月30日	25		NA		
27	✓	Complete test work	0 个工作日	2020年4月30日	2020年4月30日	26		2020年5月3日		
28	✓	Project report	3 个工作日	2020年5月1日	2020年5月5日		Rouchen Liu, Ju	2020年5月6日		
29	✓	Provide project plan	1 个工作日	2020年5月1日	2020年5月1日	27		NA		
30	✓	Provide function description	1 个工作日	2020年5月4日	2020年5月4日	29		NA		
31	✓	Prepare project report of library management system	1 个工作日	2020年5月5日	2020年5月5日	30		NA		
32	✓	Finish the report	0 个工作日	2020年5月5日	2020年5月5日	31		2020年5月6日		

项目：图书馆管理系统 日期：2020年5月7日	任务		非活动任务		手动摘要	手动摘要	外部里程碑	
	拆分		非活动里程碑		手动摘要		最后期限	
	里程碑		非活动摘要		仅开始时间		进度	
	摘要		手动任务		仅完成时间		手动进度	
	项目摘要		仅工期		外部任务			

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4. Project cost management

1. Cost management objectives

Ensure that the project does not lose money and create maximum benefits

2. Project cost budget

2.1 Total cost budget of the system

Cost Expense = Direct Material Expense + Direct Wage + Other Indirect Expenses

The total cost of the book management system is about 32,000 yuan, and the cost is used in the following aspects: direct material cost, basic salary of developers, and other indirect expenses.

2.1.1 Direct material

The direct materials required for this book management system are: development of 4 computers and a server.

2.1.2 Direct salary

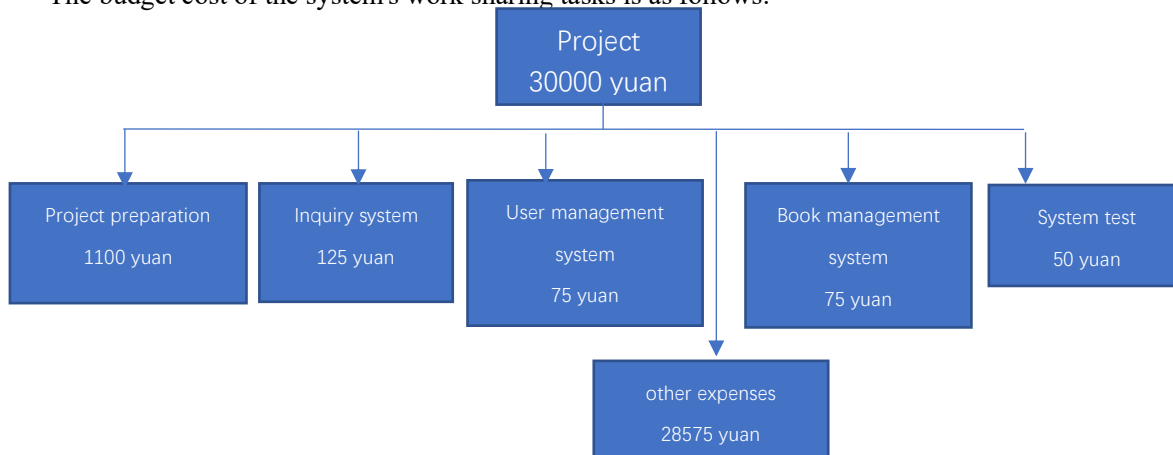
The development of this system is completed by five people, a project manager, three developers and a tester, the project manager salary is 200 yuan / day, the developer is 50 / day, and the tester is 50 / day.

2.1.3 Other indirect expenses

Other indirect expenses include project management costs, seminar fees, living expenses, etc. about 500 yuan.

3. Budget cost sharing of work tasks

The budget cost of the system's work sharing tasks is as follows:



3.1 Cumulative budget cost of book circulation management system

The planned working day of this system is 12 working days, and each cost is as follows:

Schedule of work arrangement for library management system			
Work content	Working day / day	staff member	Expenses / yuan
<i>Project preparation</i>	Estimated 5.5 working days	Yao Xiao	1100
making plans	4		
Analysis needs	1.5		
<i>Inquiry system</i>	Estimated 2.5 working days	Yao Xiao	125
Book query	1.5		
Subscription history query	1		
<i>User management system</i>	Estimated 1.5 working days	Ruochen Liu	75
User information storage	0.5		

User information management	1		
Book management system	Estimated 1.5 working days	Qi Zhu	75
Book information storage	0.5		
Book Information Management	1		
System test	Estimated 1 working days	Jun Wu	50
Query system test			
User management system testing			
Book management system test			

4. Project cost control method

The core of cost management is the cost control process, which is the dynamic management of the project development process, so that the project manager can understand the cost of the project at any time, find the problem in time, and then take the necessary measures to solve the problem encountered.

4.1 Formulate project nodes according to the project milestones and then carry out cost budgeting and control

- 1) Each project has its own milestone. Whenever a milestone is reached, the actual cost of consumption and the cost budget of unfinished projects must be calculated.
- 2) Through the cost calculation and budget of each stage, the calculated value can be compared with the previous budget. In this way, you can learn more about the cost of the project and the progress of the project.

4.2 According to the various cost control plans to control the cost of all costs on the line

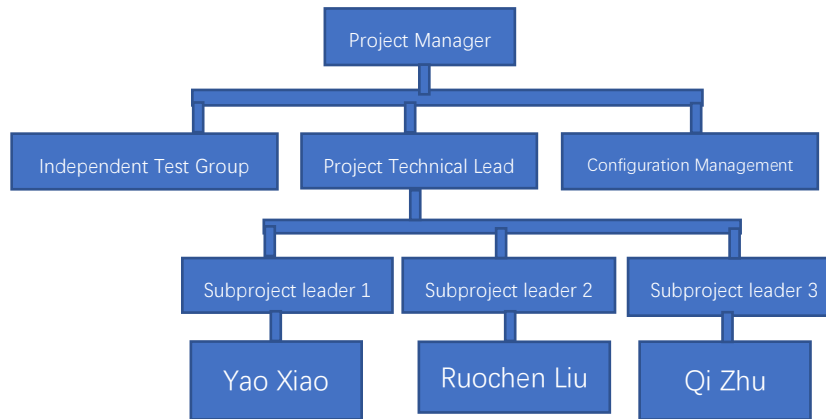
- 1) Before starting the project, each part of the project must have a cost budget. After the project starts, all costs must be strictly in accordance with the previously specified cost plan. The equipment needed for development must be purchased according to the cost budget, and the salary of the developer must be set strictly according to the requirements of the cost budget and cannot be changed.

4.3 Strictly control the cost of other indirect expenses

- 1) The project should be streamlined, and each person should be reasonably allocated during the project development process. All personnel must abide by the company's system.

5. Human resource Management

1. Project organizational charts



2. Responsibility assignment matrixes

	Ruochen Liu	Qi Zhu	Yao Xiao	Jun Wu
Project preparation	C	C	R A	C
Realization of query and borrowing function	C	C	R	C I
User information management	R	C	A	C
Book Information Management	C	R	A	C
Project testing	C	C	A	R

R=responsibility; A=accountability; C=consultation; I=informed

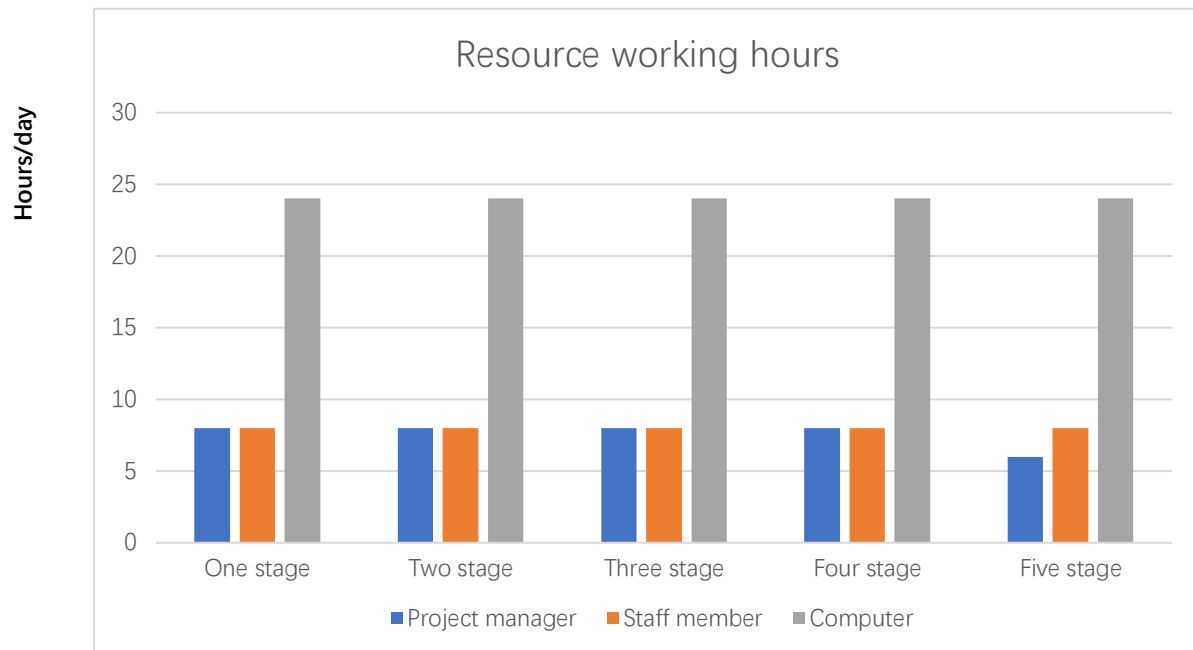
3. Staffing management plan

1) Recruitment

This project recruited four students from the class, three of them as project developers, one student as a tester, and one from the teacher as a project manager. Team members can conduct long-distance decentralized work. The project needs to pay students 50 yuan per day and 200 yuan per day to the project manager. The project manager can provide assistance and guidance to the project development team.

2) Resources

The most important resources in the development of this project are staff and computers. As shown in the figure below, the staff of each team has 8 hours of work per day during each stage of development. The computer can work 24 hours. Unlimited start time of work.



3) Personnel severance plan

The overall design of the book management project is divided into 5 parts: project preparation, user information management, book information management, query and borrowing, and functional testing. The project manager participates in the entire project development, and the three project developers are mainly responsible for user information management, book information management, query and borrowing. When the corresponding function development is completed, the corresponding developer will be sacked out of the team, and the project no longer bears the costs of these members. After all the functions are completed, the testers will test, and after testing and improving the system, the testers will be dismissed from the team. After all the work related to the project is completed, the team is automatically disbanded, and the project no longer bears the cost of all members.

4) Training needs

If the team members do not have the required abilities, the project manager will provide corresponding project experience and knowledge to help the members to learn to improve their work ability and thus benefit the project.

5) Recognition and rewards

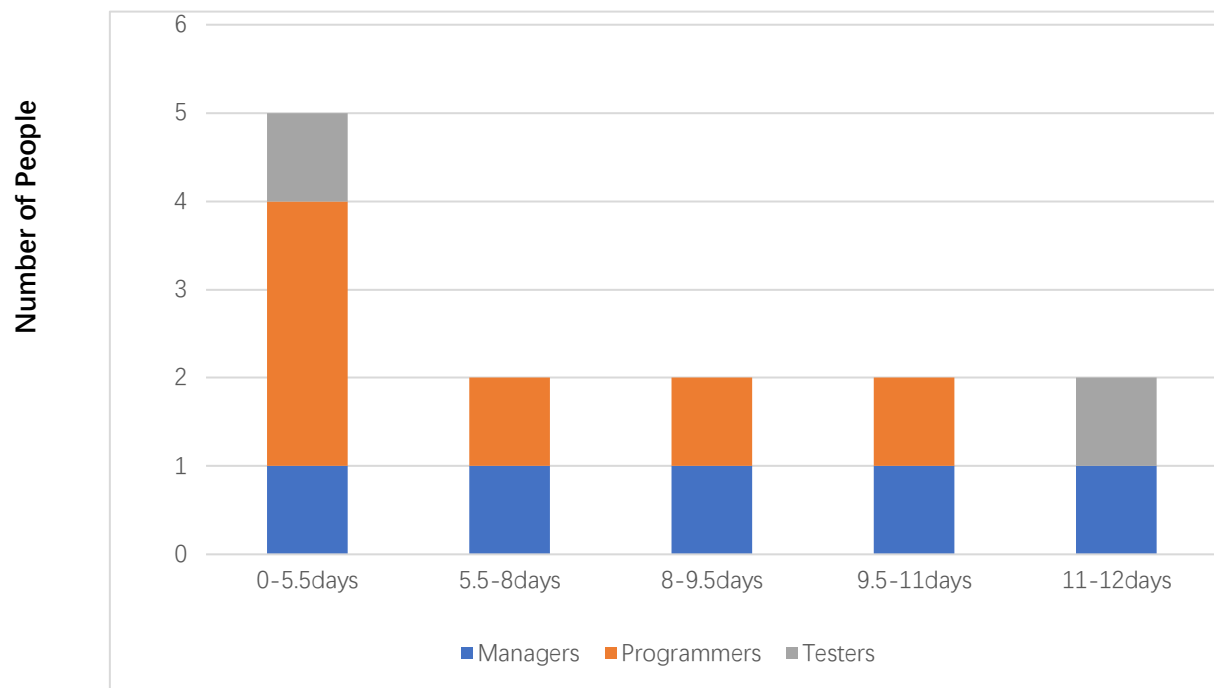
Each developer needs to complete their task within the stipulated time. If not completed, the salary will be deducted per day. When the project reaches each milestone, the project manager will calculate the cost of the project. If each developer completes the cost goal, he will get an additional day's salary reward. No reward will be given if the cost goal is not completed.

6) Compliance

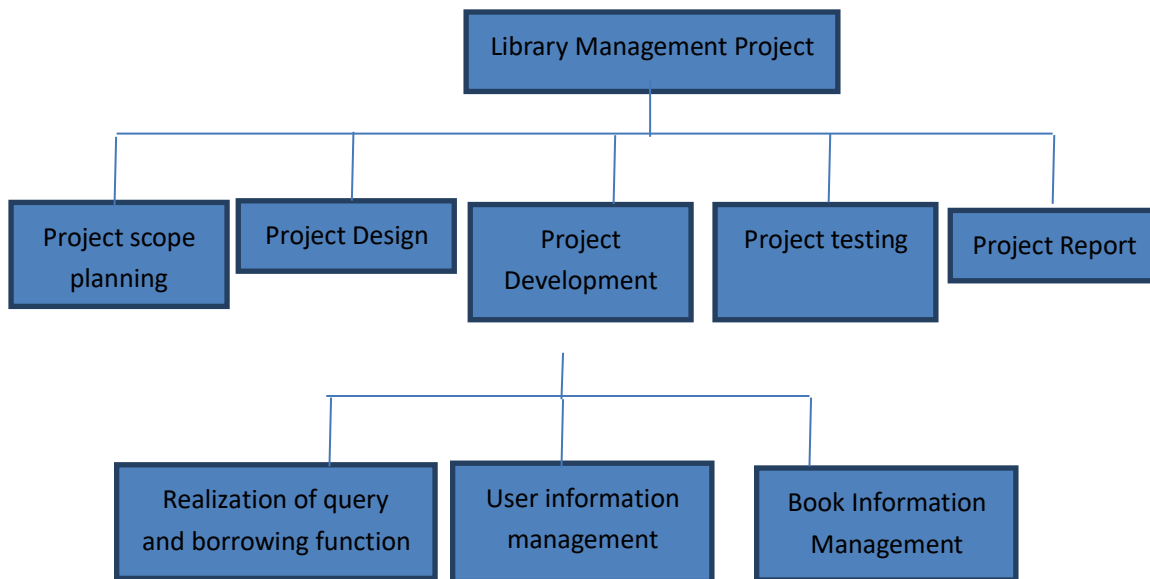
All personnel must abide by laws and regulations while participating in project development, and respect the intellectual property rights of others. All personnel must abide by the team system, respect each other, and cooperate with each other to complete the task.

4. Resource histograms

In the first two days of project development, all staff members need to participate in discussing the design of the project, and then each project developer completes his task in accordance with the steps within the prescribed time. After the project function is completed, the tester performs the test.



5. WBS



6. Project execution

1. Milestone

The book circulation management system project is designed for five project development phases, each of which sets a milestone and determines whether the actual project can be completed on time by setting a baseline of estimated completion time.

(1) Complete the analysis

The first stage is to formulate the scope of the project, mainly for the preliminary preparation and analysis of the project, and the milestone is to complete the analysis. The baseline was April 17, and the actual completion time was April 20. The first phase was not completed on time.

任务模式	任务名称	工期	开始时间	完成时间	前置任务	资源名称	基线 1 估计完成时间
1	Library management system project development	15 个工作日?	2020年4月15日	2020年5月5日			2020年5月6日
2	Project scope planning	4 个工作日?	2020年4月15日	2020年4月20日		Rouchen Liu, Jur	2020年4月17日
3	Determine project scope	1 个工作日?	2020年4月15日	2020年4月15日			NA
4	Define project resources	1 个工作日?	2020年4月15日	2020年4月15日	3SS		NA
5	Analyzing software requirements	1 个工作日?	2020年4月15日	2020年4月15日	4SS		NA
6	Group review of software requirements (meeting)	1 个工作日?	2020年4月16日	2020年4月16日	5		NA
7	Modify project requirements based on feedback	0.5 个工作日?	2020年4月17日	2020年4月17日	6		NA
8	Set delivery date	0.5 个工作日	2020年4月17日	2020年4月17日	7		NA
9	Obtain approval to carry out the work	1 个工作日?	2020年4月20日	2020年4月20日	8		NA
10	Complete the analysis	0 个工作日?	2020年4月20日	2020年4月20日	9		2020年4月17日

(2) Complete the design work

The second stage is to design the functions of the book circulation management system. The functions that the book circulation management system needs to realize are determined through the group meeting. The milestone is set to complete the design work. A baseline is April 23, and the actual completion time is April 22. The goal of the second phase is completed one day ahead of schedule.

11	design	1.5 个工作日	2020年4月21日	2020年4月22日		Rouchen Liu, Jur	2020年4月23日
12	Develop functional specifications	0.5 个工作日?	2020年4月21日	2020年4月21日	10		NA
13	Review of functional specifications (meeting)	0.5 个工作日?	2020年4月21日	2020年4月21日	12		NA
14	Modify specifications based on review feedback	0.5 个工作日?	2020年4月22日	2020年4月22日	13		NA
15	Complete the design work	0 个工作日	2020年4月22日	2020年4月22日	14		2020年4月23日

(3) Completion of development work

The third stage is to carry out the function development of the book circulation management system, which is mainly to divide the system into modules according to functions, and assign team members to code writing and preliminary testing. The milestone is to complete the development work. The baseline is April 30, and the actual completion time is April 29.

16	The development work	5.5 个工作日	2020年4月22日	2020年4月29日		Rouchen Liu, Jur	2020年4月30日
17	Review functional specification	0.5 个工作日?	2020年4月22日	2020年4月22日	15		NA
18	Division of functional modules (meeting)	0.5 个工作日?	2020年4月23日	2020年4月23日	17		NA
19	Assign tasks to developers	1 个工作日?	2020年4月24日	2020年4月24日	18		NA
20	coding	1.5 个工作日	2020年4月27日	2020年4月28日	19		NA
21	Developer testing	1 个工作日?	2020年4月28日	2020年4月28日	20		NA
22	Integrate various functional modules	1 个工作日?	2020年4月29日	2020年4月29日	21		NA
23	Completion of development work	0 个工作日	2020年4月29日	2020年4月29日	22		2020年4月30日

(4) Complete test work

The fourth stage is to test the functionality and stability of the whole book circulation management system. The baseline is May 3rd, the actual completion time is April 30th, and the test part is completed in advance.

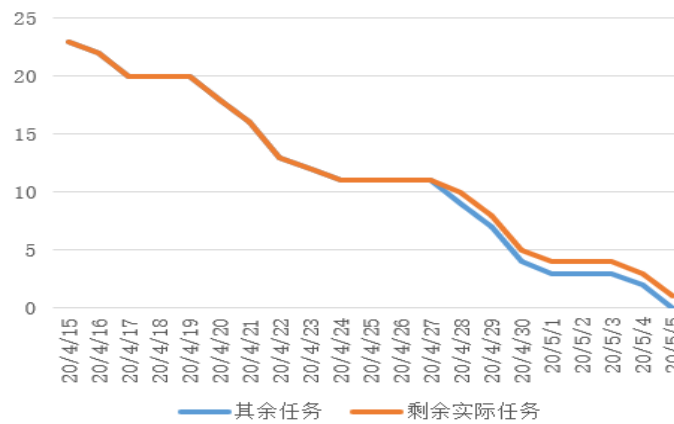
24	test	1 个工作日? 2020年4月30日	2020年4月30日		Rouchen Liu,Jur	2020年5月3日
25	Develop test plan (meeting)	0.5 个工作日 2020年4月30日	2020年4月30日	23		NA
26	test	0.5 个工作日 2020年4月30日	2020年4月30日	25		NA
27	Complete test work	0 个工作日 2020年4月30日	2020年4月30日	26		2020年5月3日

(5) Finish the report

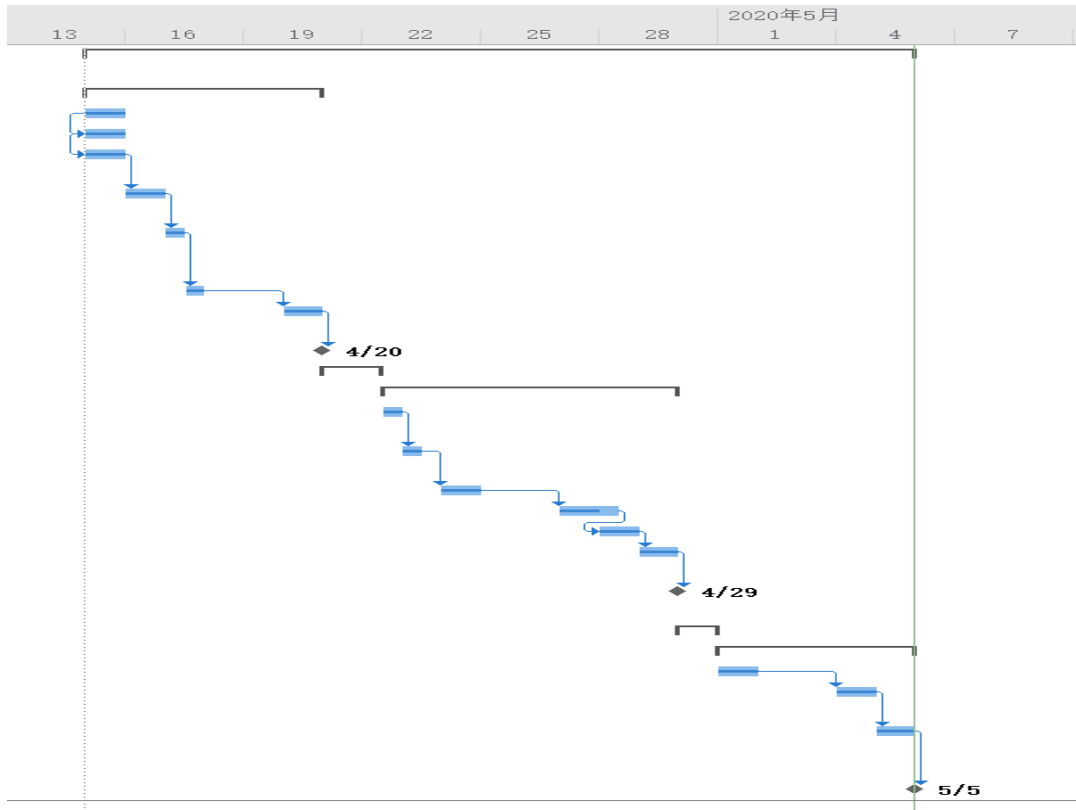
The fifth phase is the preparation of the project report, with each team member providing the project plan and explanation. The milestone is the completion of the report and the time for the entire project to be completed and delivered. The baseline is May 6th, and the actual completion date is May 5th.

28	Project report	3 个工作日? 2020年5月1日	2020年5月5日		Rouchen Liu,Jur	2020年5月6日
29	Provide project plan	1 个工作日? 2020年5月1日	2020年5月1日	27		NA
30	Provide function description	1 个工作日? 2020年5月4日	2020年5月4日	29		NA
31	Prepare project report of library management system	1 个工作日? 2020年5月5日	2020年5月5日	30		NA
32	Finish the report	0 个工作日 2020年5月5日	2020年5月5日	31		2020年5月6日

The milestone report of the project is shown in the following figure:



The Gantt chart of the project is as follows:



2. Project staff assignment

Each team member was involved in all phases of the development process. Each member is responsible for a function.

	资源名称	类型	材料标签	缩写	组	最大单位	标准费率	加班费率	每次使用	成本累算	基准日历
1	Yao Xiao	工时		Y		100%	¥0.00/工时	¥0.00/工时	¥0.00	按比例	标准
2	Jun Wu	工时		J		100%	¥0.00/工时	¥0.00/工时	¥0.00	按比例	标准
3	Rouchen Liu	工时		R		100%	¥0.00/工时	¥0.00/工时	¥0.00	按比例	标准
4	Qi Zhu	工时		Q		100%	¥0.00/工时	¥0.00/工时	¥0.00	按比例	标准

3. Project Management Update Plans

When a decision that has a significant impact on the project is to be made, including changing the project plan or changing the project director, the project director is responsible for completing the form with the assistance of the steering committee (if any) and the project team.

Project Name	<i>Book circulation management system project</i>
Project manager	Yao Xiao
Date approved	2020/4/27
Estimated completion date	2020/5/2

Report on progress since last review

Hold the meeting to divide the function specification, have finished the analysis and design work of the project. Modify the function specification, the book query can be added by Chinese and foreign language classification search function.

Decisions made by the Project Director or Steering Committee

Approved.

Significant changes to plan that have occurred

New category search function has been added. Develop and test by Yao Xiao.

Decisions required from Accountable Body

Agree

4. Deliverables

The book circulation management system was completed on April 30. The software runs as follows:

Login interface:

图书流通管理系统

书目检索

我的图书馆

关于

登录

后台管理

登录到我的图书馆

学号/工号

密码

☐ 记住密码

登录

Query interface:

图书流通管理系统

书目检索

我的图书馆

关于

登录

后台管理

馆藏书目检索

图书名

GO!

☒ 所有书刊 ☐ 中文图书 ☐ 外文图书 ☐ 中文期刊 ☐ 外文期刊

热门检索

► 电路分析

► Java

► 三体

► ppt

► 从你的全世界路过

热门借闻

► 鸟哥的Linux私房菜

► 红楼梦辞典

► 平凡的世界.1-3

► 围城

► 狼图腾

Book information:

图书流通管理系统

书目检索

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底衫不二

退出

书目信息

题名:

围城

作者/责任者:

钱钟书著

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内容简介:

本书内容: 红海早过了, 船在印度洋面上开驶着, 量是太阳依然不饶人地迟落早起, 侵占去大部分的夜。夜仿佛纸浸了油, 变成半透明体。

目录:

序 围城 附录 记钱钟书与《围城》

馆藏信息

预约申请

索书号	条码号	馆藏地	书刊状态	执行借阅
I246.5/885	71463415	文艺、传记书库 (9F)	可借	借阅
I246.5/885	71463416	文艺、传记书库 (9F)	可借	借阅

5. The minutes of the meeting

(1) A meeting to review software requirements

Conference topic: Discuss how the project should start and what needs to be prepared.

Participants: Yao Xiao, Jun Wu, Qi Zhu, Ruochen Liu

Results:

Name	Task
Yao Xiao	Determine project scope
Jun Wu	Determine project scope
Ruochen Liu	Determine project scope
Qi Zhu	Determine project scope

(2) A meeting to review functional specification

Conference topic: The book circulation management system needs what function, the interface should make what appearance.

Participants: Qi Zhu, Ruochen Liu, Yao Xiao, Jun Wu

Results:

Name	Task
Yao Xiao	Inquiry
Jun Wu	Interface design
Ruochen Liu	User management
Qi Zhu	Book management

(3) A meeting to divide functional module

Conference topic: Divide the book circulation management system into four modules by function and assign them to team members.

Participants: Ruochen Liu, Yao Xiao, Jun Wu, Qi Zhu

Results:

Name	Task
Yao Xiao	Inquiry system
Jun Wu	Login system
Ruochen Liu	User management system
Qi Zhu	Book management system

(4) A meeting to develop test plan

Conference topic: How do we test the book circulation management system and make sure it works.

Participants: Jun Wu, Qi Zhu, Ruochen Liu, Yao Xiao

Results:

Name	Task
Yao Xiao	Test
Jun Wu	Test
Ruochen Liu	Test
Qi Zhu	Test

7. Lessons Learned report of book circulation management system

1. Introduction

The purpose of the lessons learned document for the Book Circulation Management System (BCMS) Project is to capture the project's lessons learned in a formal document for use by other project managers on similar future projects. This document may be used as part of new project planning for similar projects in order to determine what problems occurred and how those problems were handled and may be avoided in the future. Additionally, this document details what went well with the project and why, so that other project managers may capitalize on these actions. Project managers may also use this document to determine who the project team members were in order to solicit feedback for planning their projects in the future.

2. Project outcome

With the development of information technology, a large amount of information in library management can be managed more effectively under the impetus of information technology. The book circulation management system can adopt the modern information management method instead of the manual management method, which can improve the efficiency of the book management work and achieve the standardized processing of information. Through scientific statistics, records and inquiries, students can borrow and return books more conveniently. The BCMS applied an efficient management system, it provides functions that inventory management, borrowing and returning system.

3. Lessons Learned from this Project

The following chart lists the lessons learned for the BCMS project. These lessons are categorized by project knowledge area and descriptions, impacts, and recommendations are provided for consideration on similar future new construction projects. It is important to note that not only failures or shortcomings are included but successes as well.

Category	Issue Name	Problem/Success	Impact	Recommendation
Human Resources Management	Award Plan	There was no plan for providing awards and recognition to team members.	Toward the end of the project morale was low among the project team. There was increased conflict and team members were asking to leave the project.	The PM should institute and communicate an awards/recognition program for every project.
Scope Management	Scope Creep	Stakeholders continuously tried adding to the project scope throughout the project lifecycle.	The PM did not have a plan for addressing scope creep and allowed some requirements to be added until the sponsor stopped it. Overall project delay of 3 weeks was the result.	The PM must have an approval process for any proposed scope changes and communicate this process to all stakeholders.

Risk Management	Zoning Approval	A risk was identified that there may be delays in receiving approval from the county zoning board. This was a success because it was identified early and planned for.	Impact was minimal because the PM included potential zoning delays into the project schedule.	Always consider external impacts on the project cost and schedule. This must be continuous throughout the project lifecycle.
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4. Process Improvement Recommendations

As indicated in the lessons learned chart above, the BCMS Project did not have a process for reviewing and approving requested changes in requirements or project scope. Therefore, it is recommended that prior to work beginning on any new project, the project manager must brief the project sponsor on the process for requesting and approving changes to project scope.