

IST 659 final project–group 12

1. Document with team name, group members and which project you will work on. If your own requirements document must be submitted and approved.

Group name: librarian

Team member : Chuan Tse Tsai(leader) , Lu Guo , Peiyuan Feng

Introduction

In today's environment, due to the rapid development of information and the expansion of service types, the library is no longer limited by the limitation of time and space. All units and individuals who use the library's resources are users of the library, and their user scope can be determined by traditional borrowing readers have developed into global readers who share information resources in the library through the Internet, and the user group is unprecedentedly large. Modern service means make the information user group develop from a single to a diversified and dynamic direction. The design purpose of this project is to establish a new library management system, which encapsulates different books into data objects, and provides various public access attributes by calling different data functions to meet the needs of users.

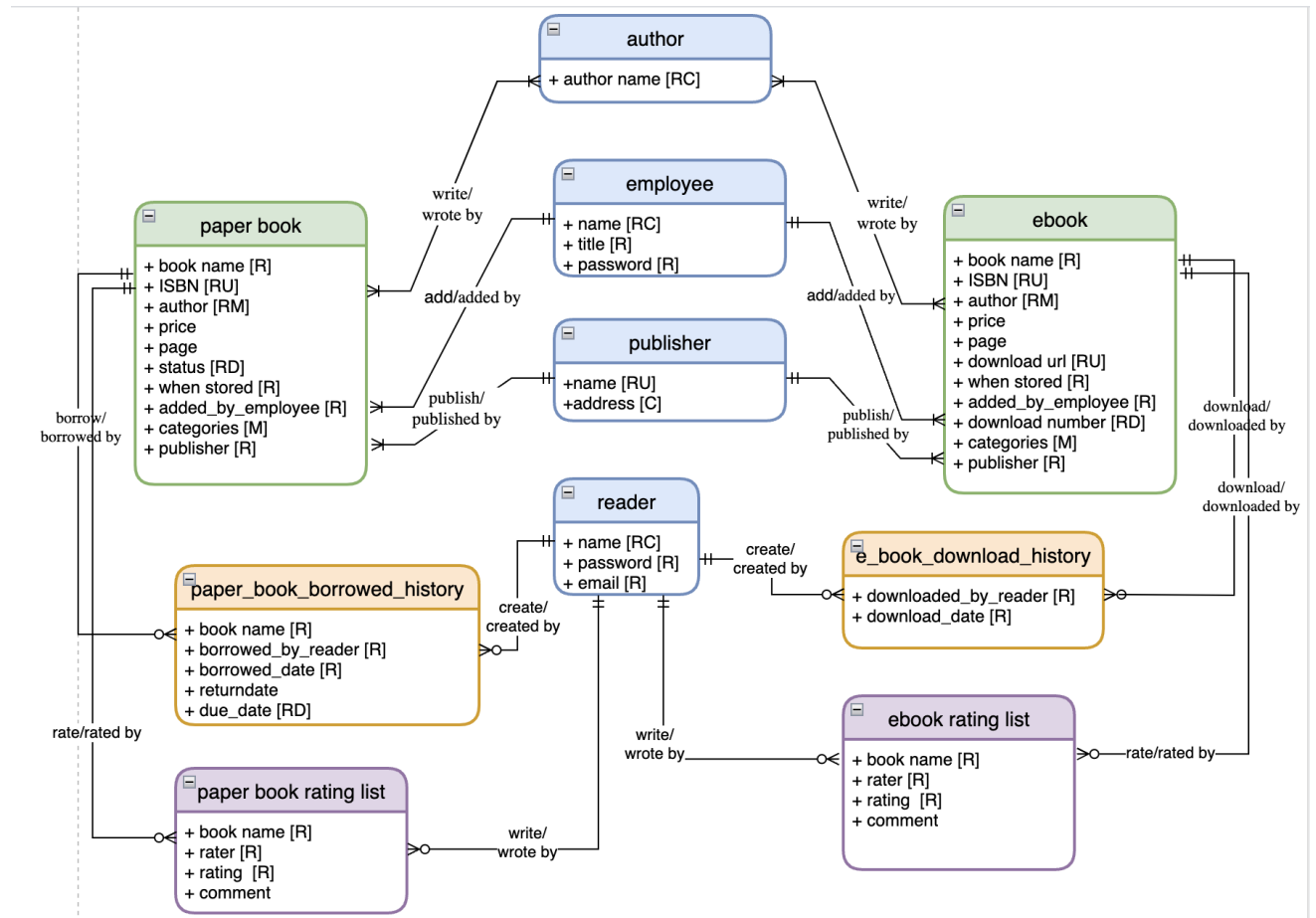
Function

In this project, we will have two types of users. One is manager and the other is normal user. Manager can manage books, which can add or remove book, checking all the books' status and borrowing history. Manager can also manage normal user's account, editing his account information and viewing his borrowing history. The normal user can search whether the book is borrowable and checking his own borrowing history. Only the user that have borrowed the book can write the comment of that book. We will have paper book and e-book. Paper can only be borrowed by one person in single time, e-book can be downloaded by everyone.

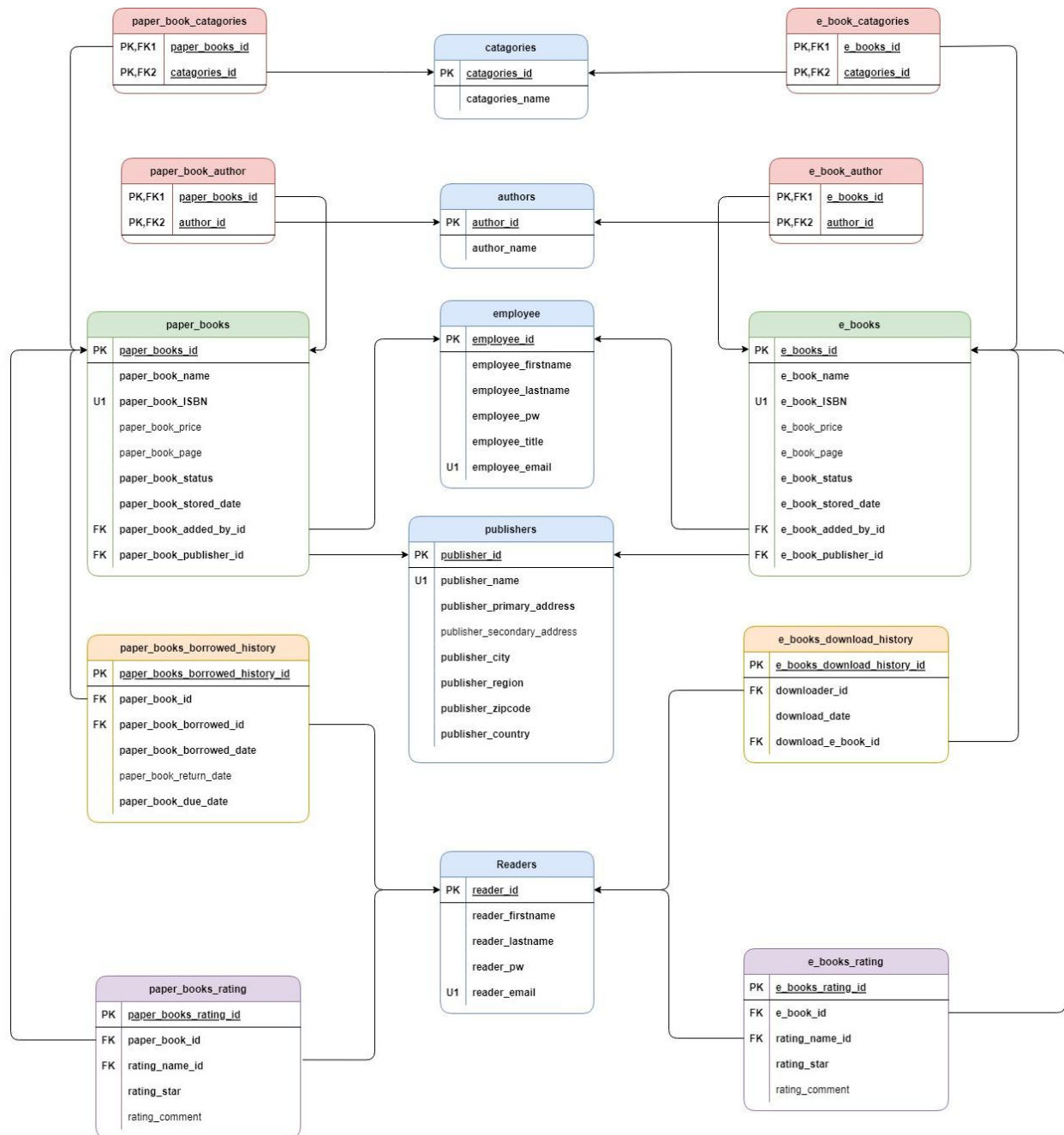
2. Data analysis of the facts listing entities, attributes, and relationships in the data model. (E-R Requirements spreadsheet)

The spreadsheet is in the "ist659-group12-ER-data.xlsx" file.

Entities and Attributes				Relationships				
				paper book-paper book rating list	paper book paper book rating list	rated by rate to	0 M 1 1	paper book rating list paper book
paper book rating list	book name	R	name of the paper book					
	rater	R	rater of the paper book	ebook-ebook rating list	ebook ebook rating list	rated by rate to	0 M 1 1	ebook rating list ebook
	rating	R	rating of the paper book					
	comment		paper book comment					
ebook rating list	book name	R	name of the ebook					
	rater	R	rater of the ebook					
	rating	R	rating of the ebook					
	comment		ebook comment					
paper_book_borrowed	borrowed_by_read	R	reader for paper book borrowed					
	borrowed_date	R	date for paper book borrowed					
	returndate		return date for paper book borrowed					
	due_date	RD	due date for paper book borrowed					
	book name	R	name of paper book					
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	book name	R	the book that the reader download					

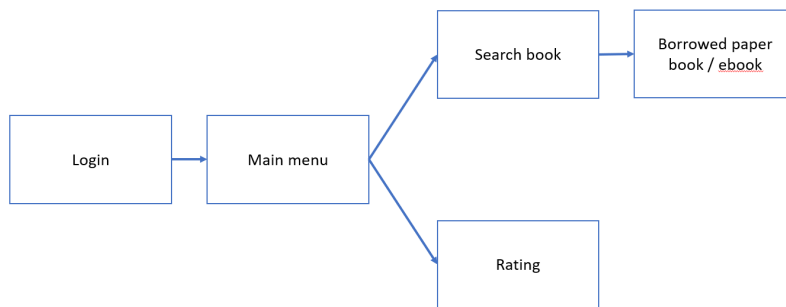


4. Logical Data Model Diagram

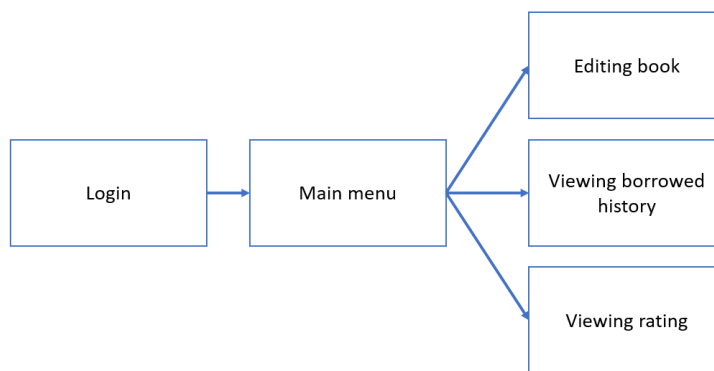


5. Identification of your external data model and data logic.

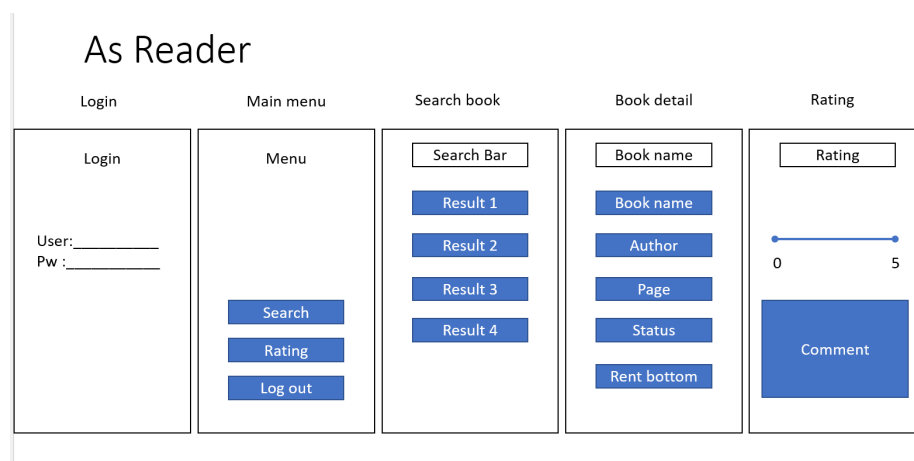
As Reader

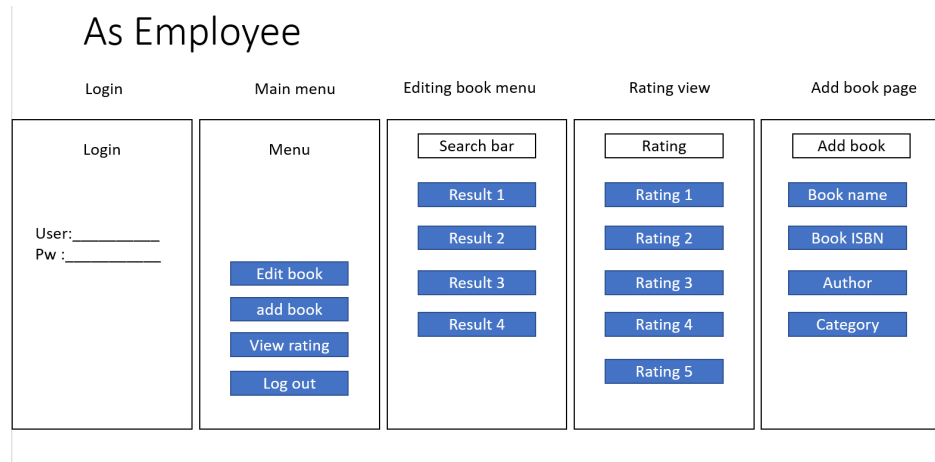


As Employee

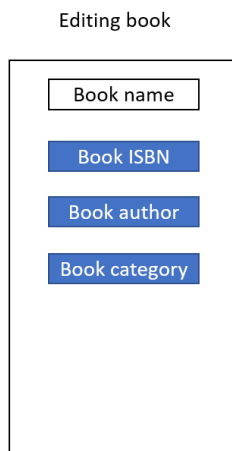


6. Basic layout of all application screens

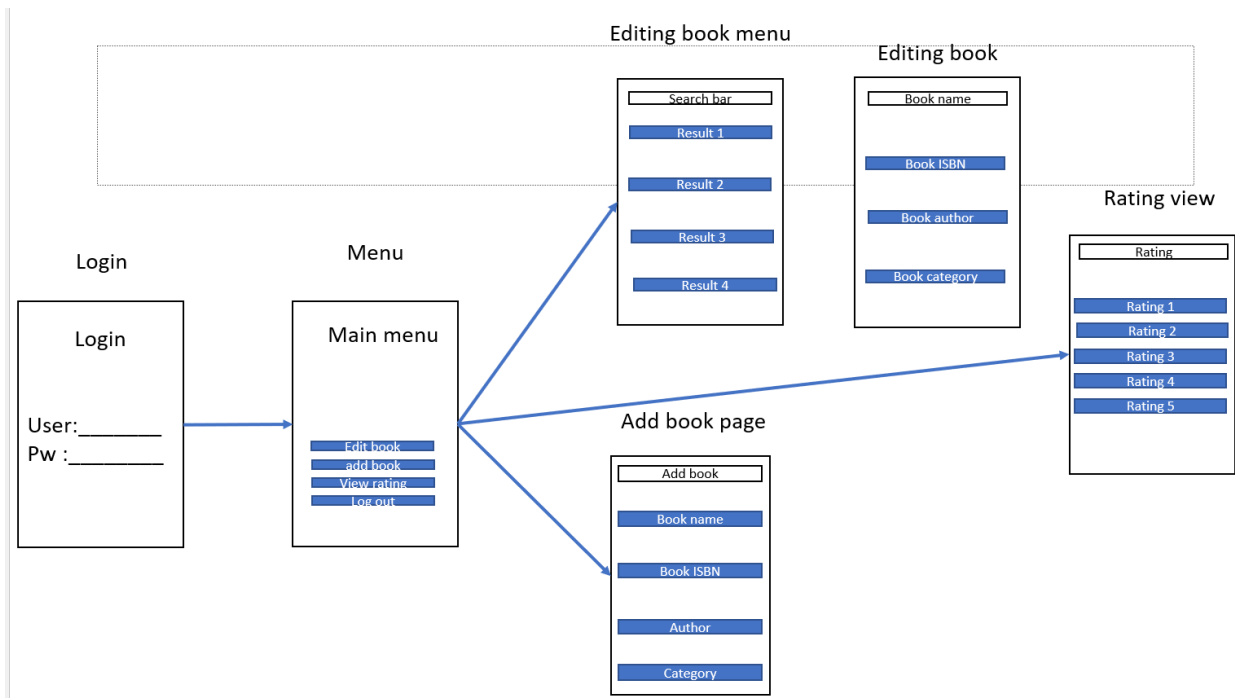
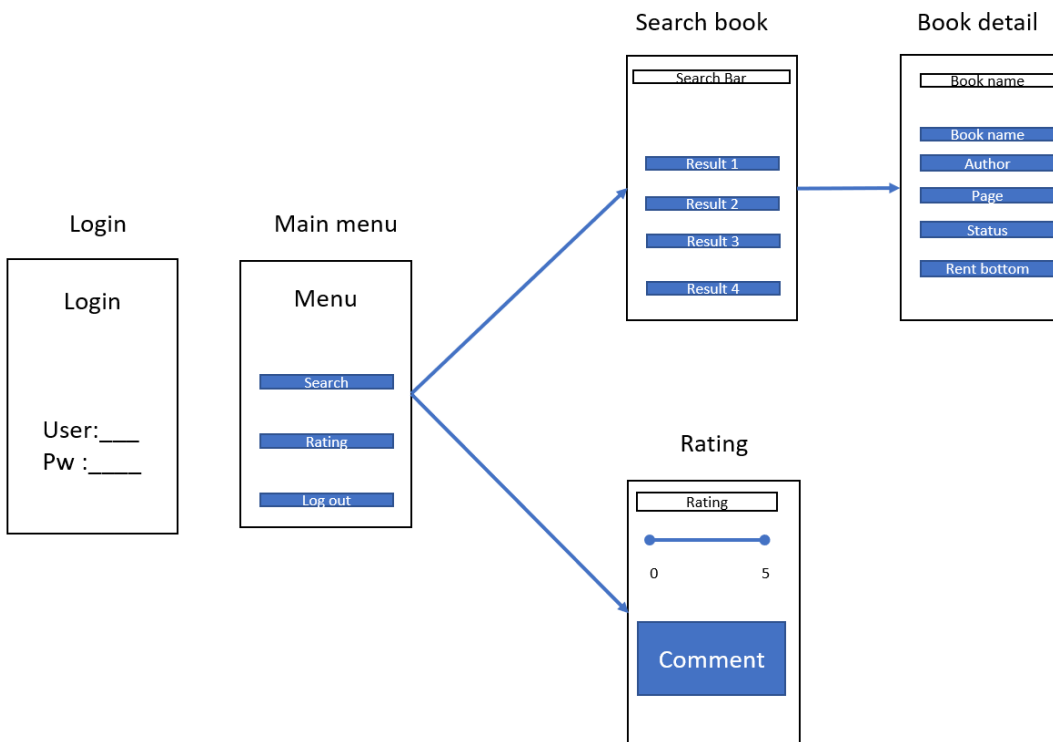




As Employee



7. Diagram of each screen used in the application.



8. SQL Up/Down script to implement the internal model with initial data.

We have 15 tables, the code is in the "final create table and insert data.sql" file.

	reader_id	reader_firstname	reader_lastname	reader_pw	reader_email
1	1	Julia	Green	1234	julia.green@email.com
2	2	John	Smith	1234	john.smith@email.com
3	3	Rachel	Jones	1234	rachel.jones@email.com
4	4	Simon	Williams	1234	simon.williams@email.com
5	5	Lily	Brown	1234	lily.brown@email.com

	publisher_id	publisher_name	publisher_primary_address	publisher_secondary_address	publisher_city	publisher_region
1	1	Scholastic	1230 Avenue of the Americas	NULL	New York	NY
2	2	Nimble Books	60 S. Market St. #100	NULL	San Jose	CA
3	3	Gramercy Books	2424 E Main St	NULL	Bexley	Oh
4	4	Del Rey Books	1745 Broadway	NULL	New York	NY
5	5	Crown	1745 Broadway Fl 13	NULL	New York	NY
6	6	Random House Audio	10807 New Allegiance Drive, ...	NULL	New York	NY
7	7	Wings Books	814 N. Franklin St.	NULL	Chicago	IL
8	8	Broadway Books	1745 Broadway	NULL	New York	NY
9	9	William Morrow Paperbacks	1745 Broadway	NULL	New York	NY
10	10	Ballantine Books	1745 Broadway	NULL	New York	NY

	e_book_rating_id	e_book_id	rating_name_id	rating_star	rating_comment
1	1	1	1	5	So good
2	2	1	2	4	Nice
3	3	1	1	5	Very good

	paper_book_id	category_id
1	1	1
2	2	3
3	3	1
4	4	2
5	5	2
6	6	2
7	7	2
8	8	2
9	9	8
10	10	14

	paper_book_id	author_id
1	1	1
2	2	2
3	3	1
4	4	3
5	5	3
6	6	3
7	7	3
8	7	6
9	8	3
10	9	4

	category_id	category_name
1	1	Fiction
2	2	Romance
3	3	Mystery
4	4	Thriller
5	5	Horror
6	6	Science
7	7	Fantasy
8	8	History
9	9	Classics
10	10	Biography

9. SQL Up/Down Script to load / migrate in existing data.

The code is in the “final create table and insert data.sql” file.

10. SQL Up/Down script of data logic for the external data model

We have 9 views, the code is in the “final_view.sql” file.

We have 10 stored Procedure is in the “final_procedure.sql” file.

```

95 |
96 | select * from user_view_paper_books
97 |

```

Results		Messages				
	paper_book_name	paper_book_ISBN	paper_book_page	paper_book_status	category_name	publisher_name
1	Harry Potter and the Chamber...	439554896	352	Available	Fiction; Mystery	Scholastic
2	Unauthorized Harry Potter Bo...	976540606	152	Available	Mystery	Nimble Books
3	Harry Potter Collection#1-6	439827604	3342	Available	Fiction; Mystery	Scholastic
4	Five Complete Novels and One...	517226952	815	Available	Classics; Roman...	Gramercy Books
5	The Ultimate Hitchhikers Gui...	345453743	815	Available	Romance; Classi...	Del Rey Books
6	The Hitchhikers Guide to the...	1400052920	215	Available	Classics; Roman...	Crown
7	The Hitchhikers Guide to the...	739322206	6	Available	Romance; Classi...	Random House Audio

```

96 select * from view_paper_book_rent_history
97

```

Results Messages

	borrower	paper_book_name	paper_book_borrowed_date	paper_book_return_date	paper_book_due_date
1	Julia Green	Harry Potter and the Chamber...	2020-02-01	2020-02-05	2020-03-01
2	John Smith	Unauthorized Harry Potter Bo...	2020-02-02	2020-02-20	2020-03-02
3	Rachel Jones	Harry Potter Collection#1-6	2020-02-03	2020-02-13	2020-03-03
4	Simon Williams	Five Complete Novels and One...	2020-02-04	2020-02-14	2020-03-04
5	Julia Green	Harry Potter Collection#1-6	2020-05-05	2020-05-15	2020-06-05
6	John Smith	Five Complete Novels and One...	2020-04-06	2020-04-16	2020-05-06
7	Simon Williams	Harry Potter Collection#1-6	2020-07-07	2020-07-17	2020-08-07
8	Simon Williams	The Ultimate Hitchhikers Gui...	2020-02-08	2020-02-18	2020-03-08

11. Implementation of the application itself.

We implemente five use stories:

1. As a user, I can search paper book so that I can find the book information.
2. As an employee, I can edit paper book information so that update the book information.
3. As a user, I can borrow paper book so that I can read it.
4. As a user, I can search ebooks so that I can find what I want and get the download link.
5. As an employee, I can add new books so that users can access it.

This is the link of video about power app:

<https://drive.google.com/file/d/1tNdaLNU2zHfepm5cKT7pZXVuzkFe6dxQ/view>

12. A team log recording individual and group contributions to the project including when and by whom.

Date	Content	Member
11.14-11-20	2. E-R Requirements spreadsheet	Chuan Tse Tsai & Lu Guo & Peiyuan Feng
11.20	3. Conceptual Data Model Diagram	Lu Guo
11.21	4. Logical Data Model Diagram	Chuan Tse Tsai
11.29	5. Identification of your external data model and data logic	Peiyuan Feng

11.29	6. Basic layout of all application screens	Peiyuan Feng
11.29	7. Diagram of each screen used in the application	Peiyuan Feng
11.30	8. Create tables and constraints	Chuan Tse Tsai (5 tables) & Lu Guo (5 tables) & Peiyuan Feng (5 tables)
12.2	9. SQL Up/Down Script to load in existing data.	Lu Guo (10 tables) & Chuan Tse Tsai (5 tables)
12.4	10. SQL Up/Down script of data logic for the external data model	Chuan Tse Tsai (3 views, 4 procedures) & Lu Guo (3 views, 3 procedures) & Peiyuan Feng (3 views, 4 procedures)
12.5-12.6	11. Power app	Lu Guo & Chuan Tse Tsai
	12. Write log	Lu Guo
12.9	13. Demo video	Chuan Tse Tsai & Lu Guo & Peiyuan Feng
12.9	14. Reflection video	Chuan Tse Tsai & Lu Guo & Peiyuan Feng

13. A slide deck of your presentation or document

This is the document.

14. Demo Video

This is the link to demo video: <https://www.youtube.com/watch?v=SpxTjvtaCY4>

15. Reflection Video (5 minutes tops)

This is the link to reflection video: https://www.youtube.com/watch?v=bP_ghZyUb3A