

CPSC 471 Final Project Report

Summary

Abstract

This report covers the functionality behind the Property Website that we built for this assignment. In this report we detail the problem that we are solving with this system, our solution, the database and how we query it to input and receive data from the database itself and how users access our system. There are two main users for this system: Landlords and Tenants.

Landlords are able to edit their profile, put properties on the website for tenants to view, and view applications from tenants - this includes looking at an applicant's rental history or any reference letters that accompany their profile. Landlords are then able to create rental agreements with the tenants - once those have been signed by the tenant the landlord is also available to create invoices for payment for tenants to view.

Tenants are able to edit their profile, adding their credit score to their profile, view all properties listed on the website, apply to a property and pending acceptance of their application can sign a rental agreement from a landlord. Tenants can also view any invoices from their landlords. Additionally, Tenants can add their rental history in which they can list the properties in the sight that they have lived in before. Tenants also may include multiple reference letters in their profile.

Introduction

The problem that this website is designed to address is when there is no integrated platform for viewing the pertinent items that have to do with your rental agreement. From a tenant perspective we have issues such as, signing and viewing a rental agreement, browsing for a new place to live, or viewing invoices for rental payments. From a landlord perspective there needed to be a place for them to create postings for properties, viewing the potential applicants, viewing that applicant's rental history, creating a rental agreement, and creating invoices for tenants.

This website we've created allows for both tenants and landlords to create accounts and provides all functionality to these actors to do what they need to do. It allows Landlords to create and edit their user profiles, create rental properties, view all applications, view an applicant's rental history and create a rental agreement for that tenant. Tenants are able to edit their profile, create applications to specific properties and then accept any rental agreements that have been created for them. Additionally, Tenants are also able to create a rental history in which they can list the properties in the sight that they have lived in before. This rental history can be viewed by the landlords that own the properties they apply to.

Changes Since The Demo

We have implemented 2 changes since the Demo:

1. Tenants can now add reference letters that are viewable by landlords when they apply to a building.
2. Landlords can now add a bylaw to the rental agreement.

Discussion

Landlord Actions

The following are described in detail in the User Manual and the

- Creating Properties
- Editing Profile
- Viewing Applicants
 - View Applicants' Rental History
 - View Applicants' Reference Letter
- Creating Rental Agreements
- Creating Invoices for Payments

Tenant Actions

- Editing Profile
- Creating a Rental History
 - Edit Rental History
- Viewing Properties
 - Applying to Properties
- Viewing Reference Letter
 - Create Reference Letter
- Accepting Rental Agreements
- Viewing Invoices

Running Our Application

We have provided in this submission an SQL schema for our database and a Zip file of all of the php files we used for the front end. Our application is currently being run on a hosting platform called Hostinger.com to access our website you can visit:

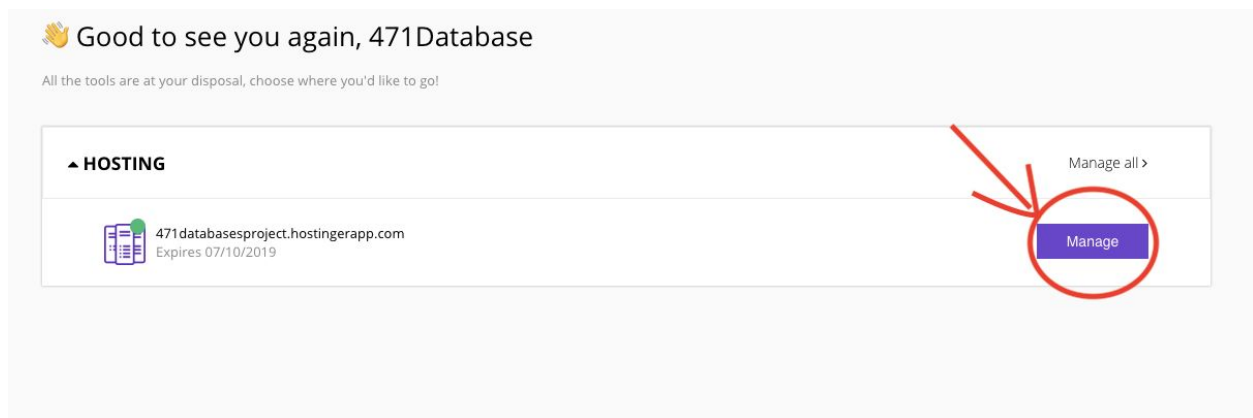
<http://471databasesproject.hostingerapp.com/>

To View the Interactions with the database you can log into <https://www.hostinger.com/> using the following information:

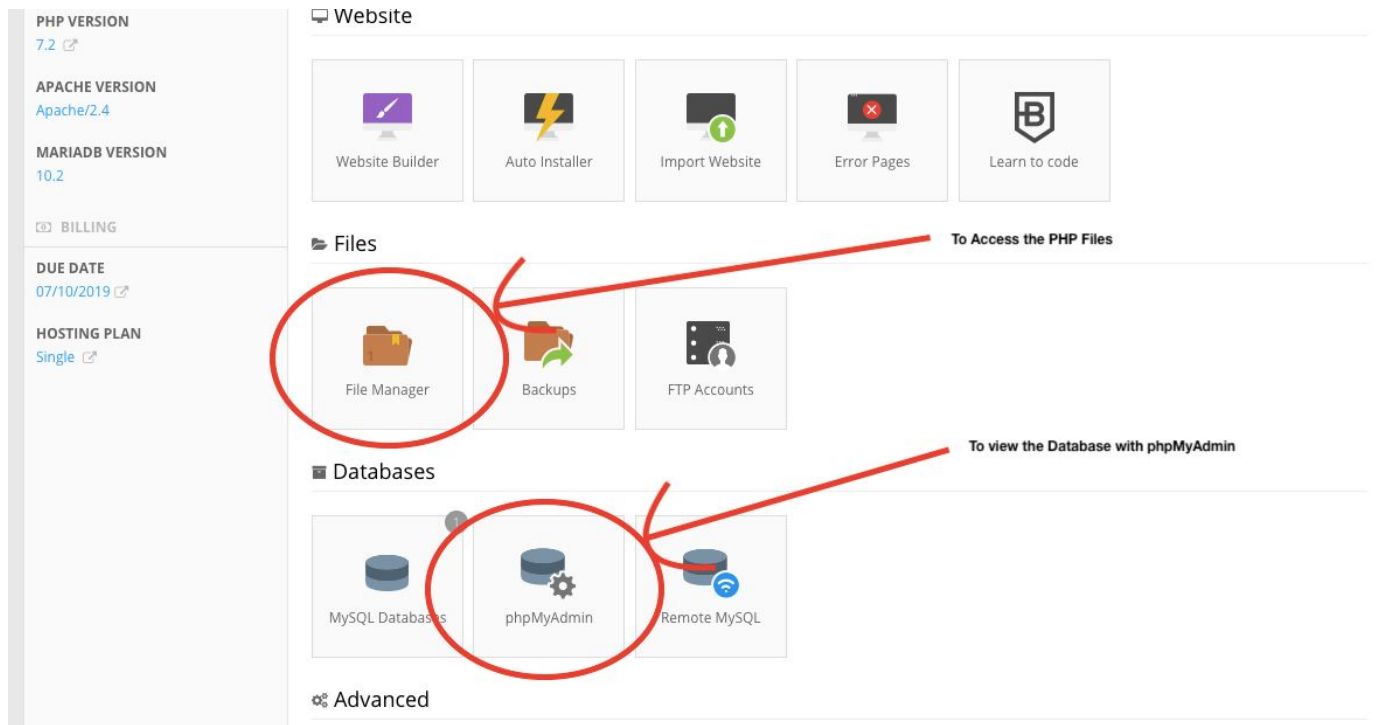
User: wangnanjia@yahoo.com

Pswd: Databases471!

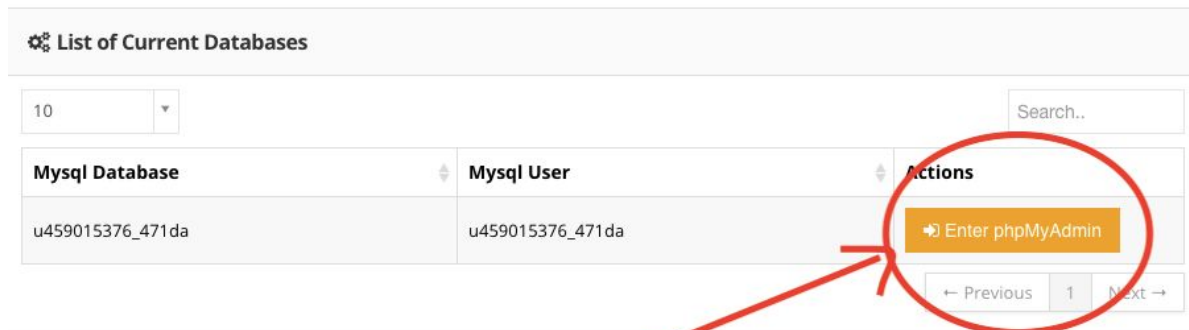
You will be met with this screen and then you click this button:



Which Leads you to This Screen: Scroll down until you see this screen



If you click the lower icon to view the database you will be led to this screen where you can view the database:



The screenshot shows a web interface titled "List of Current Databases". At the top left is a gear icon and the title. Below the title is a search bar with "Search.." and a dropdown menu showing "10". The main content is a table with three columns: "Mysql Database", "Mysql User", and "Actions". The first row of data shows "u459015376_471da" in the first two columns. In the "Actions" column, there is an orange button labeled "Enter phpMyAdmin" with a right-pointing arrow icon. A red circle is drawn around this button, and a red arrow points from the bottom left towards it. Below the table is a pagination bar with "← Previous", "1", and "Next →".

| List of Current Databases | | |
|---------------------------|------------------|----------------------------------|
| Mysql Database | Mysql User | Actions |
| u459015376_471da | u459015376_471da | Enter phpMyAdmin |

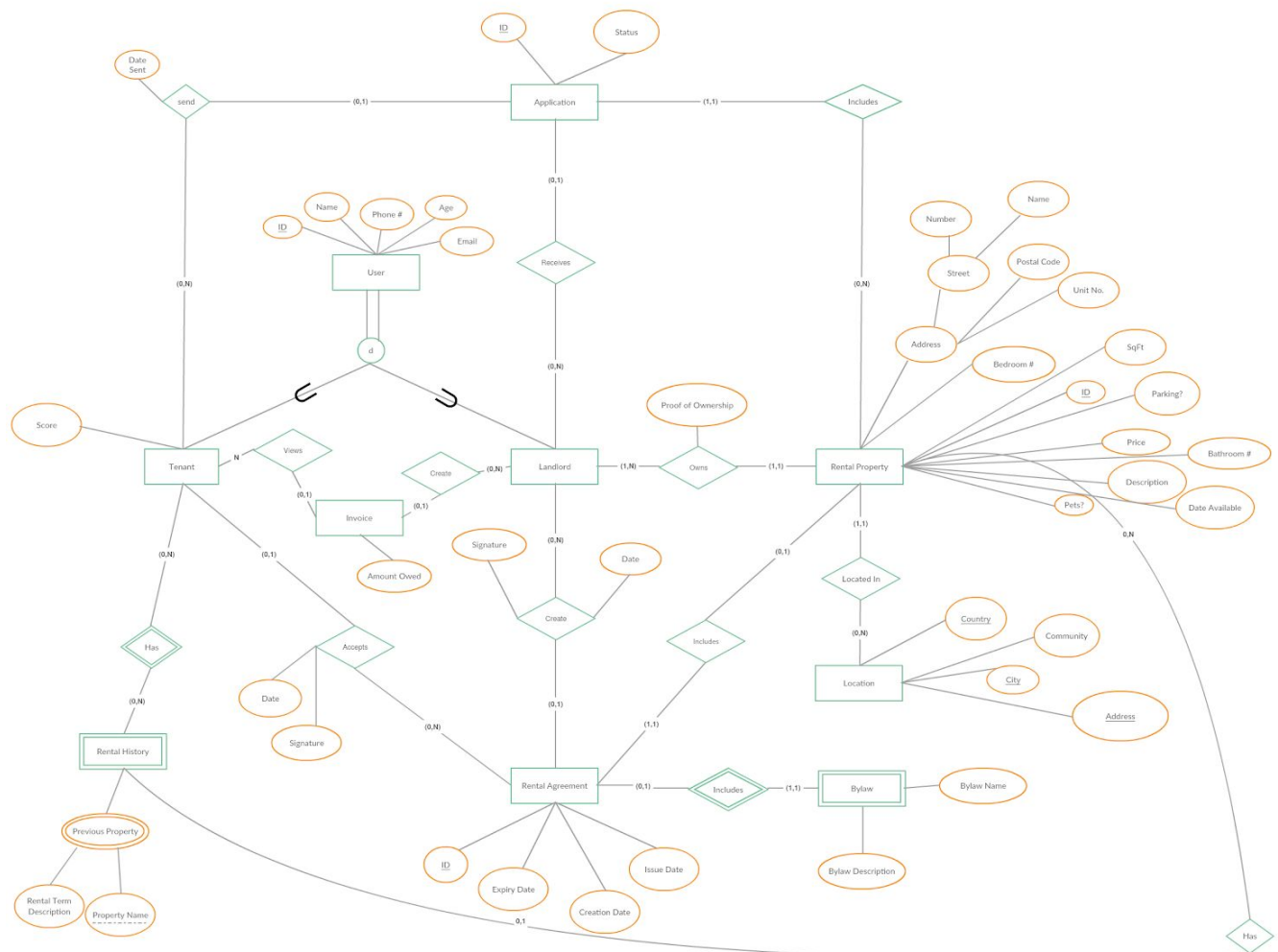
ERD

On the next Page is the ERD for this Database a higher Resolution Version can be found in the Appendix.

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Assumptions:
1. tenant can only live in one place
2. multiple tenants can rent same place
3. a landlord must own at least one property

Relational Model

Below is the Relational Model - a higher Resolution version has been added to the Appendix



Going from the ERD to the RM:

In the relational model, we first have LANDLORD table who has USER_ID as the primary id.

This table store all the related personal information regarding user who login in as landlord.

Then we have the TENANT table store relevant personal information regarding tenant plus credit score, landlord id and rental agreement id which would be added later. We created a separate table called REFERENCE LETTER to store the reference letter for tenant. The reason we create a separate table is to reduce the redundancy in TENANT table. The APPLICATION table has APPLICATION_ID as the primary key and has three foreign key:

RENTAL_PROPERTY_ID, TENANT_ID, LANDLORD_ID pointed to the related table. The information in this table is created when tenant send application to landlord.

RENTAL_PROPERTY table record information for the property. The foreign key LANDLORD_ID refer to the user who owns the property. LOCATION table just store the additional location information of the property. When landlord create rental agreement, information will be insert to

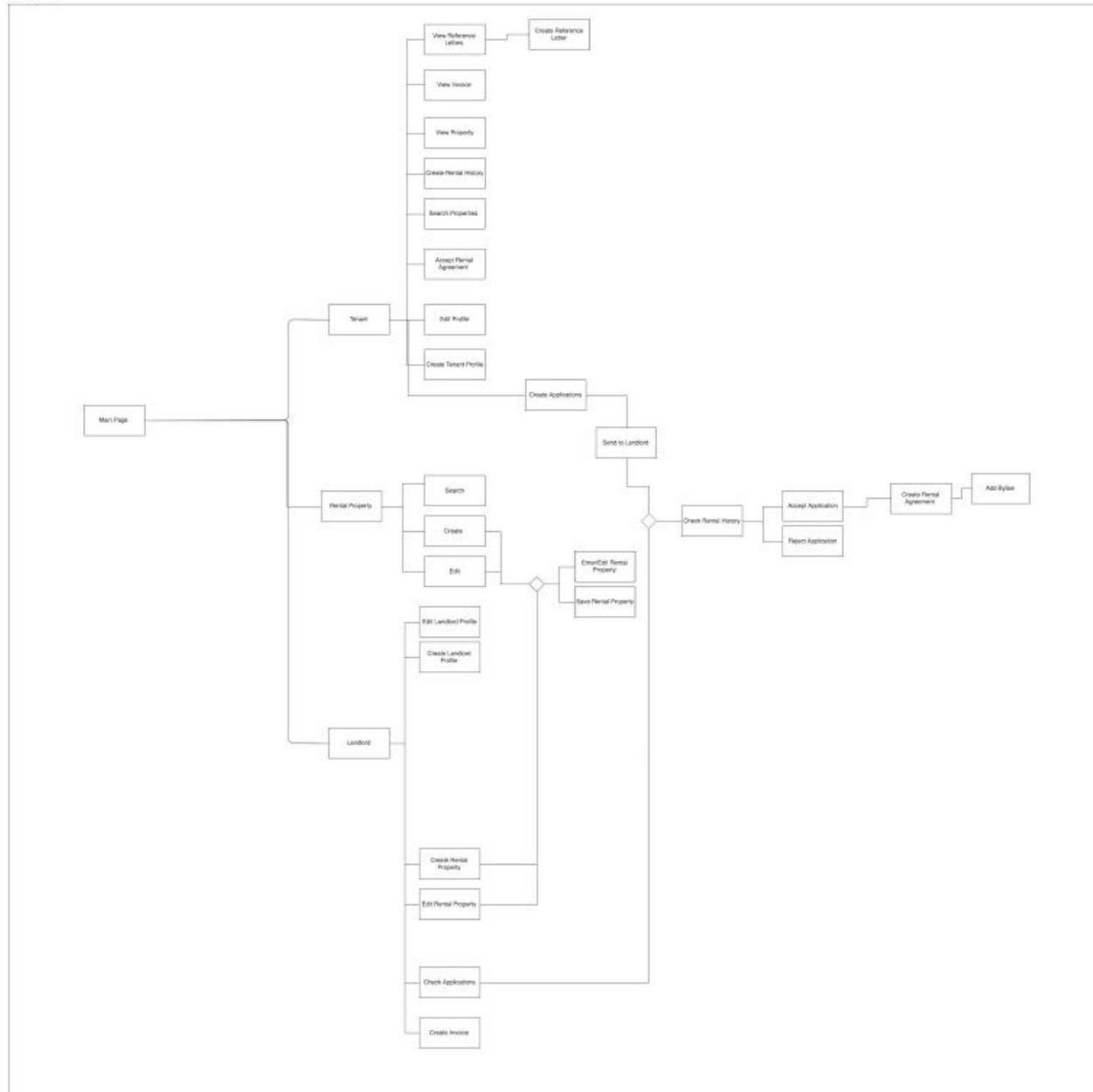
RENTAL_AGREEMENT table in column: ISSUE_DATE, EXPIRY_DATE, LANDLORD_ID, DATE_CREATED, LANDLORD_SIGNATURE and DESCRIPTION. And value for AGREEMENT_ID will be auto generated. When tenant accept the agreement, the

TENANT_SIGNATURE, TENANT_ID and DATE_ACCEPTED will be updated from NULL to the related value. BYLAWS is the table designed to store additional bylaw information that attached to the rental agreement. Tenant can add rental history in RENTAL_HISTORY table. And when landlord want to collect rent fee from tenant, they create invoice, and information will be add to INVOICE table so that tenant can view it.

Functional Model

Hipo Model Shows the basic flow of the program - a higher resolution version has been provided in the Appendix.

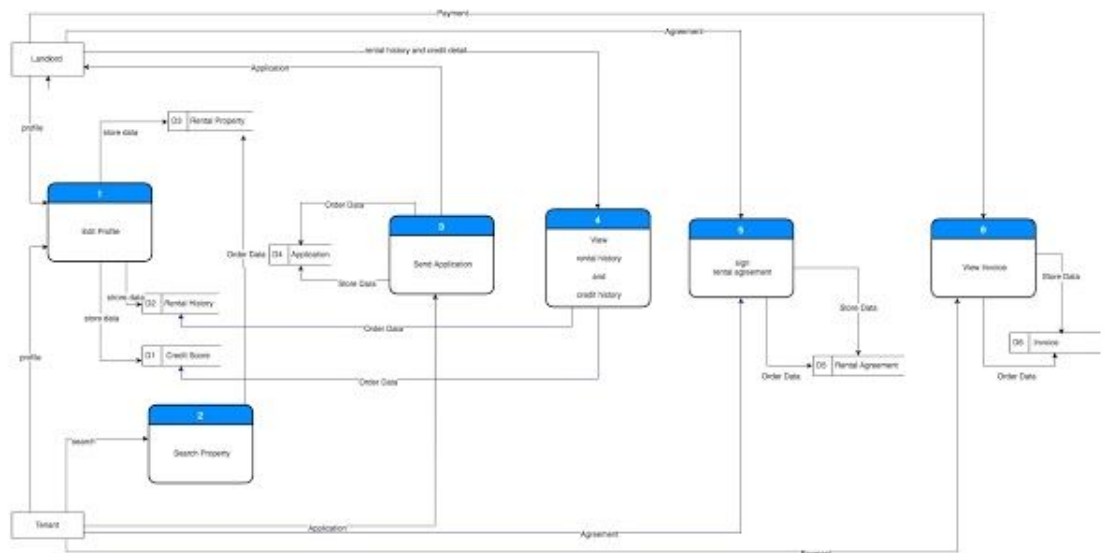
HIPO



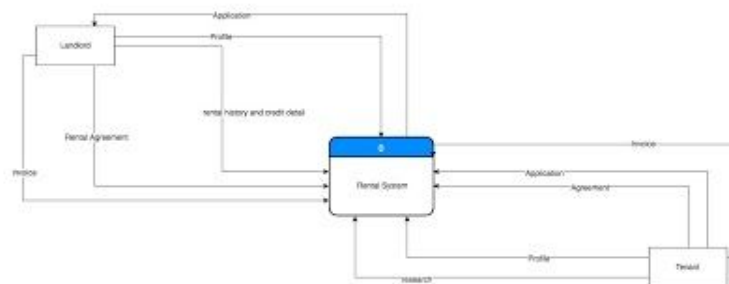
DFD

DFD

Level 0 DFD



Context Diagram



SQL Statements and Descriptions

Sign Up As Tenant:

Insert into the TENANT table information from the Sign up Page

```
$sql = "INSERT INTO `TENANT`(`USER_ID`, `NAME`, `PHONE_NUMBER`,
`AGE`, `EMAIL_ADDRESS`, `CREDIT_SCORE`, `LANDLORD_ID`,
`RENTAL_AGREEMENT_ID`) VALUES (UUID_SHORT(),'". $name."' ,'"
$phoneNumber."' ,'" . $age."' ,'" . $email."' ,NULL,NULL,NULL)";
```

Then Select the tenant to get the ID number for the session

```
$sql2 = "SELECT `USER_ID` FROM `TENANT` WHERE NAME = '". $name."' AND
AGE = '". $age."' AND EMAIL_ADDRESS = '". $email.'";"
```

Sign In As Tenant:

Select the user with the name and email that matches

```
$sql2 = "SELECT `USER_ID` FROM `TENANT` WHERE NAME = '". $name."'
AND EMAIL_ADDRESS = '". $email.'";"
```

Sign In As Landlord:

Select the user with the name and email that matches

```
"SELECT `USER_ID` FROM `LANDLORD` WHERE NAME = '". $name."' AND
EMAIL_ADDRESS = '". $email.'";"
```

Sign Up as Landlord:

Insert into the LANDLORD table information from the Sign up Page

```
$sql = "INSERT INTO `LANDLORD`(`USER_ID`, `NAME`, `PHONE_NUMBER`,
`AGE`, `EMAIL_ADDRESS`) VALUES (UUID_SHORT(),'". $name."' ,'"
$phoneNumber."' ,'" . $age."' ,'" . $email.'");"
```

Then Select the Landlord to get the ID number for the session

```
$sql2 = "SELECT `USER_ID` FROM `LANDLORD` WHERE NAME = '". $name."'
AND AGE = '". $age."' AND EMAIL_ADDRESS = '". $email.'";"
```

Edit Profile as Landlord:

Update the landlord information with the Landlord_ID that matches

```
$sql = "UPDATE LANDLORD SET NAME = '$_POST[uname]', PHONE_NUMBER =
'$_POST[uphone]', AGE = '$_POST[uage]', EMAIL_ADDRESS =
'$_POST[uemail]' where USER_ID = " . $_SESSION["LandlordID"].";"
```

Edit Profile as Tenant:

Update the tenant with the TenantID that matches

```
$sql = "UPDATE TENANT SET NAME = '$_POST[uname]', PHONE_NUMBER =
$_POST[uphone]', AGE = '$_POST[uage]', EMAIL_ADDRESS =
$_POST[uemail]', CREDIT_SCORE = '$_POST[credit]' where USER_ID = " .
$_SESSION["TenantID"]."";
```

Landlord view all Applications:

Select the application with Landlord ID matches.

```
$sql = "SELECT `APPLICATION_ID`, `STATUS`, `REQUIREMENTS`,
`RENTAL_PROPERTY_ID`, `TENANT_ID`, `LANDLORD_ID` FROM `APPLICATION`
WHERE LANDLORD_ID = " . $_SESSION["LandlordID"]."";
```

Landlord view applicants Rental History:

Select the Rental History with applicants(tenant) ID matches.

```
$sql = "SELECT * FROM `RENTAL_HISTORY` WHERE USER_ID = $tenant_ID";
```

Landlord view applicants Reference Letter:

Select the letter with applicants(tenant) ID matches.

```
$sql = "SELECT * FROM `REFERENCE_LETTER` WHERE TENANT_ID = $tenant";
```

Landlord create Rental Property:

Insert into Location Table, information from create rental property page.

```
$sql = "INSERT INTO `LOCATION`(`LOCATION_ID`, `COUNTRY`, `CITY`,
`COMMUNITY`, `STREET_ADDRESS`, `UNIT_NO`) VALUES (UUID_SHORT(),'".
$country."', '". $city."', '". $community."', '". $stname."', '".
$unitno."'")"
```

Landlord view all his tenants:

Select all tenants from TENANT table with the current landlord ID matches

```
$sql3 = "SELECT `USER_ID` FROM `TENANT` WHERE LANDLORD_ID = '".
$_SESSION['LandlordID'].'"
```

Landlord create invoice:

Insert into INVOICE table, information from pick Tenant page.

```
$sql = "INSERT INTO `INVOICE`(`INVOICE_ID`, `AMOUNT`, `LANDLORD_ID`,
TENANT_ID) VALUES (UUID_SHORT(),'".
$amount."', '". $Landlord_id."', '". $tenant_id."'")";
```

Landlord create Rental Agreement:

Insert into rental_agreement table with information from create rental agreement page.

```
$sql = "INSERT INTO `RENTAL_AGREEMENT`(`AGREEMENT_ID`, `ISSUE_DATE`,
`EXPIRY_DATE`, `LANDLORD_ID`, `DATE_CREATED`, `LANDLORD_SIGNATURE`,
`TENANT_SIGNATURE`, `TENANT_ID`, `DATE_ACCEPTED`, `DESCRIPTION`)
VALUES (UUID_SHORT(),'". $dateIssued."', '". $dateExpired."', '".
$_SESSION['LandlordID']."', '". $dateCreated."', '".
$landlordSignature."', NULL, '". $tenant_ID."', NULL, '".
$description."')";
```

Update application status from pending to accepted

```
$sql3 = "UPDATE `APPLICATION` SET STATUS='Accepted' WHERE
LANDLORD_ID = '". $_SESSION['LandlordID']."' AND TENANT_ID =
'". $tenant_ID."";
```

Insert into BYLAWS table with information from create Rental Agreement page

```
$sql2 = "INSERT INTO `BYLAWS`(`AGREEMENT_ID`, `BYLAW_NAME`,
`BYLAW_DESCRIPTION`) VALUES ('". $rentalAgreementID."',
'". $bylawName."', '". $bylawDescription."')";
```

Tenant view Properties:

Select the Rental Properties Attributes and display them. We want to view all properties:

```
$sql = "SELECT `PROPERTY_ID`, `PROPERTY_NAME`, `AGREEMENT_ID`,
`SQFT`, `PRICE`, `BEDROOM_COUNT`, `BATHROOM_COUNT`, `PARKING?`,
`PETS?`, `STREET_NO`, `STREET_NAME`, `POSTAL_CODE`, `UNIT_NO`,
`DATE_AVAILABLE`, `PROPERTY_LOCATION`, `LANDLORD_ID`,
`PROOF_OF_OWNERSHIP` FROM `RENTAL_PROPERTY`";
```

Tenant apply Properties:

Insert into APPLICATION table with session tenant ID and Property ID from view all property page.

```
$sql2 = "INSERT INTO `APPLICATION`(`APPLICATION_ID`, `STATUS`,
`REQUIREMENTS`, `RENTAL_PROPERTY_ID`, `TENANT_ID`, `LANDLORD_ID`)
VALUES (UUID_SHORT(),'Pending',NULL,'". $_GET['propertyID']."' , '".
$_SESSION['TenantID']."' , '". $landlordID."')";
```

Tenant view Invoice:

Select from INVOICE table with session tenant ID matches.

```
$sql = "SELECT * FROM INVOICE WHERE TENANT_ID = '".
$_SESSION['TenantID']."'";
```

Tenant accept Rental Agreement:

Update the agreement information from accept rental agreement page.

```
$sql3 = "UPDATE TENANT SET LANDLORD_ID = '$Landlord_id',
RENTAL_AGREEMENT_ID = '$rentalAgreementID' where USER_ID =
".$Tenant_id."
```

Update the landlord table, adding tenant

```
$sql3 = "UPDATE TENANT SET LANDLORD_ID = '$Landlord_id',
RENTAL_AGREEMENT_ID = '$rentalAgreementID' where USER_ID =
".$Tenant_id."";
```

Tenant view all Reference Letter:

Select from Reference Letter table with session tenant ID matches

```
$sql = "SELECT * FROM `REFERENCE_LETTER` WHERE TENANT_ID = " .
$_SESSION["TenantID"].";
```

Tenant add Reference Letter:

Insert into reference letter table with information from create reference letter page.

```
$sql = "INSERT INTO `REFERENCE_LETTER`(`TENANT_ID`, `LETTER`) VALUES
('".$_SESSION['TenantID']."', '".$_SESSION['letter']."')";
```

Tenant view Rental History:

Select all information from rental history table with session tenant ID matches.

```
$sql = "SELECT `DESCRIPTION` FROM `RENTAL_HISTORY`WHERE USER_ID = '".$_SESSION["TenantID"]."'"
```

Tenant add Rental History:

Insert information into rental history table

```
$sql = "INSERT INTO `RENTAL_HISTORY`(`USER_ID`, `RENTAL_HISTORY_ID`,
`DESCRIPTION`) VALUES ('".$_SESSION['TenantID']."', '".$_SESSION['propertyID']."', '".$_SESSION['description']."')"
```

Tenant edit Rental History:

Update the row in rental history table with the property id you choose on edit rental history page.

```
$sql = "UPDATE RENTAL_HISTORY SET DESCRIPTION = '$_POST[description]'
where USER_ID = " . $_SESSION["TenantID"]." and RENTAL_HISTORY_ID =
'$_POST[house]'"
```

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Nanjia Wang 30049414

User Manual

Landlord Manual

Main Sign In Page:

Here there is an opportunity for new users to create a landlord account or sign in if they already have one.

Landlord in Database:

| USER_ID | NAME | PHONE_NUMBER | AGE | EMAIL_ADDRESS |
|-------------------|----------------|--------------|-----|-------------------------|
| 98102651077525554 | Genna Williams | 1234567890 | 39 | genna@exampledomain.com |
| 98102651077525558 | James Jones | 1234567890 | 54 | james@exampleDomain.ca |
| 98102651077525571 | Jane | 9999999999 | 67 | jane@exampleDomain.ca |

To Sign In, Enter Name and Email:

Landlord Sign In Portal
Name:
E-mail:

To Create an Account You must enter:

- Name
- Email
- Age
- Phone Number

Landlord Sign Up
Name:
E-mail:
Age
Phone Number

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Yiyun Shi 30017738

Nanjia Wang 30049414

Once you have signed up or signed in you are taken to your dashboard:

(Sign in as Genna Williams/genna@exampledomain.com)

Landlord Dashboard

Options

[View All Applications](#)

[Create a Rental Property](#)

[Create An Invoice](#)

[Edit Profile](#)

[Create Rental Agreement](#)

[Logout](#)

View All Applications:

| USER_ID | NAME | PHONE_NUMBER | AGE | EMAIL_ADDRESS |
|-------------------|----------------|--------------|-----|-------------------------|
| 98102651077525554 | Genna Williams | 1234567890 | 39 | genna@exampledomain.com |
| 98102651077525558 | James Jones | 1234567890 | 54 | james@exampleDomain.ca |
| 98102651077525571 | Jane | 9999999999 | 67 | jane@exampleDomain.ca |

Shows all the applications that have been submitted to properties you created.

All Applications

Property Name: Cozy Apartment

Status: Pending

Applicant Name: Kaitlin

Applicant Email: kaitlin@exampleDomain.ca

[Create Rental Agreement for Tenant](#)

[View Applicants Rental History](#)

[View Applicants Reference Letter](#)

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View Applicants Rental History:

| USER_ID | RENTAL_HISTORY_ID | DESCRIPTION |
|-------------------|-------------------|-------------------------|
| 98102651077525563 | 98102651077525556 | I lived with my friends |

Shows the applicants rental history for review a tenant can

98102651077525556:

Description:

I lived with my friends

[Back](#)

View Applicants Reference Letter:

| TENANT_ID | LETTER |
|-------------------|---|
| 98102651077525563 | Please feel free to call me at 1234444444 or write... |
| 98102651077525563 | To whom it may concern, This letter is written wi... |
| 98102651077525566 | This tenant was ideal! |
| 98102651077525566 | To Whom it May Concern: Please be informed that Te... |

Shows the applicants Reference Letter

All Reference Letter

Tenant Name: Kaitlin

Please feel free to call me at 1234444444 or write me at 1@me.com.

Tenant Name: Kaitlin

To whom it may concern, This letter is written with the intention of recommending one Julian Paine as a tenant at your rental property. Between May 1st, 2010 and April 30th, 2012, Julian has rented an apartment from me on the lower east side and has never once made a late payment. The monthly rent was \$1400.

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Create a Rental Property:

Allows you to input property type, Sqft, Price, numbers of Bedrooms and Bathrooms, parking , pet allowed, address, and Date Available.

Create New Rental Property

Name:

Sqft:

Price:

Number of Bedrooms:

Number of Bathrooms:

Parking: ☐

Pets: ☐

Unit No:

Street No:

Street Name:

Postal Code:

Community:

City:

Country:

Date Available:

[Back](#)**Create invoice:****Invoice table:**

| INVOICE_ID | AMOUNT | LANDLORD_ID | TENANT_ID |
|-------------------|--------|-------------------|-------------------|
| 98102651077525584 | 2000 | 98102651077525554 | 98102651077525563 |

Allow you announce invoice to your tenant.

Your tenant are listed below:

Type in the tenant id that you want to create invoice and amount you want to charge:

Tenant ID:

Amount:

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Edit Profile:

| USER_ID | NAME | PHONE_NUMBER | AGE | EMAIL_ADDRESS |
|-------------------|----------------|--------------|-----|-------------------------|
| 98102651077525554 | Genna Williams | 1234567890 | 39 | genna@exampledomain.com |
| 98102651077525558 | James Jones | 1234567890 | 54 | james@exampleDomain.ca |
| 98102651077525571 | Jane | 9999999999 | 67 | jane@exampleDomain.ca |

Allows you change your information like Name, Email, Age, and Phone Number.

Edit Profile

Name:

Email:

Age:

Phone Number:

id:

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Create Rental Agreement:

| AGREEMENT_ID | ISSUE_DATE | EXPIRY_DATE | LANDLORD_ID | DATE_CREATED | LANDLORD_SIGNATURE | TENANT_SIGNATURE | TENANT_ID | DATE_ACCEPTED | DESCRIPTION |
|-------------------|------------|-------------|-------------------|--------------|--------------------|------------------|-------------------|---------------|---|
| 98102651077525565 | 2019-04-11 | 2019-08-01 | 98102651077525554 | 2019-04-11 | Genna Williams | NULL | 98102651077525563 | NULL | This is a formal Rental Agreement for Residence In... |
| 98102651077525570 | 2019-04-11 | 2019-05-08 | 98102651077525558 | 2019-04-11 | James Jones | NULL | 98102651077525566 | NULL | This is the Agreement for the Penthouse. Outlined ... |

Allows you to input the start date and expiry date for a rental agreement - as well as the description

Create New Rental Agreement

Connected successfully

Date Agreement Issued:

Date Agreement Expires:

Description (Max 2000 Characters):

Bylaw Name:

Bylaw Description:

Date Created:

Tenant id:

Type Your Name for Signature:

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Finally, Landlord can logout or close the window.

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Tenant Manual

Main Sign In Page:

Here there is an opportunity for new users to create a tenant account or sign in if they already have one.

Tenant in Database:

| USER_ID | NAME | PHONE_NUMBER | AGE | EMAIL_ADDRESS | CREDIT_SCORE | LANDLORD_ID | RENTAL_AGREEMENT_ID |
|-------------------|---------|--------------|-----|--------------------------|--------------|-------------|---------------------|
| 98102651077525563 | Kaitlin | 1111111111 | 20 | kaitlin@exampleDomain.ca | 800 | NULL | NULL |
| 98102651077525566 | Noah | 2222222222 | 19 | noah@exampleDomain.ca | NULL | NULL | NULL |

To Sign In, Enter Name and Email:

Tenant Sign In Portal

Name:

E-mail:

To Create an Account You must enter:

- Name
- Email
- Age
- Phone Number

Sign Up as Tenant

Name:

E-mail:

Age

Phone Number

Once you have signed up or signed in you are taken to your dashboard:

(Sign in as Kaitlin/kaitlin@exampleDomain.ca)

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Yiyun Shi 30017738

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Tenant Dashboard

[View Properties](#)

[View Invoice](#)

[Edit Profile](#)

[Accept Rental Agreement](#)

[View All Reference Letter](#)

[Your Rental History](#)

[Logout](#)

View Property:

| PROPERTY_ID | PROPERTY_NAME | AGREEMENT_ID | SQFT | PRICE | BEDROOM_COUNT | BATHROOM_COUNT | PARKING? | PETS? | STREET_NO | STREET_NAME | POSTAL_CODE | UNIT_NO | DATE_AVAILABLE | PROPERTY_LOCATION | LANDLORD_ID | PROOF_OF |
|-------------------|----------------|--------------|------|-------|---------------|----------------|----------|-------|-----------|-------------|-------------|---------|----------------|-------------------|-------------------|----------|
| 98102651077525556 | Cozy Apartment | NULL | 600 | 1000 | 1 | 1 | 1 | 1 | 78 | Example St | T73 1S6 | 14 | 2019-09-01 | 98102651077525555 | 98102651077525554 | 1 |
| 98102651077525560 | Penthouse | NULL | 1000 | 2000 | 2 | 1 | 1 | 1 | 76 | 1st St | T4E 9S2 | 541 | 2019-08-01 | 98102651077525559 | 98102651077525558 | 1 |
| 98102651077525562 | Townhouse | NULL | 2500 | 1500 | 3 | 2 | 1 | 1 | 27 | Acorn Way | TB3 E47 | 0 | 2019-06-01 | 98102651077525561 | 98102651077525558 | 1 |

Show all the available property in the system.

All Properties

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| Property Name | Square Footage | Price Per Month | Number of Bedrooms | Number of Bathrooms | Parking | Pets Allowed | Address | Apply |
|----------------|----------------|-----------------|--------------------|---------------------|---------|--------------|--------------------------|-----------------------|
| Cozy Apartment | 600 | 1000 | 1 | 1 | Yes | Yes | 14 78 Example St T73 1S6 | Apply |
| Penthouse | 1000 | 2000 | 2 | 1 | Yes | Yes | 541 76 1st St T4E 9S2 | Apply |
| Townhouse | 2500 | 1500 | 3 | 2 | Yes | Yes | 27 Acorn Way TB3 E47 | Apply |

Apply to Rental Property:

Allow you apply for the property by clicking Apply button on View Property Page.

Application to Property

Application Has been Sent

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The application is automatically send the property landlord.

View Invoice:

(empty database)

| INVOICE_ID | AMOUNT | LANDLORD_ID | TENANT_ID |
|------------|--------|-------------|-----------|
|------------|--------|-------------|-----------|

Show the invoice amount you need to pay.

0 results.The invoice id is 0 and the amount you need to pay is 0

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Edit Profile:

| USER_ID | NAME | PHONE_NUMBER | AGE | EMAIL_ADDRESS | CREDIT_SCORE | LANDLORD_ID | RENTAL_AGREEMENT_ID |
|-------------------|---------|--------------|-----|--------------------------|--------------|-------------|---------------------|
| 98102651077525563 | Kaitlin | 1111111111 | 20 | kaitlin@exampleDomain.ca | 800 | NULL | NULL |
| 98102651077525566 | Noah | 2222222222 | 19 | noah@exampleDomain.ca | NULL | NULL | NULL |

Allows you change your information like Name, Email, Age, Phone Number, and Credit Score.

Edit Profile

98102651077525563

Name:

Email:

Age:

Phone Number:

Credit Score:

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Accept Rental Agreement:

| AGREEMENT_ID | ISSUE_DATE | EXPIRY_DATE | LANDLORD_ID | DATE_CREATED | LANDLORD_SIGNATURE | TENANT_SIGNATURE | TENANT_ID | DATE_ACCEPTED | DESCRIPTION |
|-------------------|------------|-------------|-------------------|--------------|--------------------|------------------|-------------------|---------------|---|
| 98102651077525565 | 2019-04-11 | 2019-08-01 | 98102651077525554 | 2019-04-11 | Genna Williams | NULL | 98102651077525563 | NULL | This is a formal Rental Agreement for Residence In... |
| 98102651077525570 | 2019-04-11 | 2019-05-08 | 98102651077525558 | 2019-04-11 | James Jones | NULL | 98102651077525566 | NULL | This is the Agreement for the Penthouse. Outlined ... |

Once landlord accept your application and create the agreement for you, this page will show the agreement you receive. You can accept it or leave it because you need think about it.

Want to accept the rental agreement?

The rental agreement id is: 98102651077525565

Your potential rental will start on: 2019-04-11

Your potential rental will end on: 2019-08-01

Here is all the additional information you should notice: This is a formal Rental Agreement for Residence In Cozy Apartment.

Type Your Name for Signature:

Type in the ID of agreement you want to accept:

Date Accepted:

[I need think about it](#)

Kaitlin de Chastelain Finnigan 30044556

Yiyun Shi 30017738

Nanjia Wang 30049414

View Reference Letter:

| TENANT_ID | LETTER |
|-------------------|---|
| 98102651077525563 | Please feel free to call me at 1234444444 or write... |
| 98102651077525563 | To whom it may concern, This letter is written wi... |
| 98102651077525566 | This tenant was ideal! |
| 98102651077525566 | To Whom it May Concern: Please be informed that Te... |

Show all the Reference Letter of yours.

All Reference Letter

Reference Letter:

Please feel free to call me at 1234444444 or write me at 1@me.com.

Reference Letter:

To whom it may concern, This letter is written with the intention of recommending one Julian Paine as a tenant at your rental property. Between May 1st, 2010 and April 30th, 2012, Julian has rented an apartment from me on the lower east side and has never once made a late payment. The monthly rent was \$1400.

[Add Reference Letter](#)

[Back](#)

Add Reference Letter:

After you press 'Add Reference Letter' above, you can add new Reference Letter.

Add Reference Letter

Add Reference Letter(Max 500 Characters):

Add Reference Letter

Kaitlin de Chastelain Finnigan 30044556

Yiyun Shi 30017738

Nanjia Wang 30049414

Your Rental History:

| USER_ID | RENTAL_HISTORY_ID | DESCRIPTION |
|-------------------|-------------------|-------------------------|
| 98102651077525563 | 98102651077525556 | I lived with my friends |

Show all Rental History.

Your Rental History

Rental History:

I lived with my friends

[Edit Rental History.](#)

[Create Rental History.](#)

[Back](#)

Edit Rental History:

You can choose which History you want to change, and then edit description.

Edit Rental History

98102651077525556:

Description:

I lived with my friends

Input the ID number you want to update:

98102651077525556 ▼

98102651077525556

[Back](#)

Edit Description

Description: I lived with my friends

Update

[Back](#)

Create Rental History:

You can choose the previous property you lived, and add your description in 1000 characters.

Kaitlin de Chastelain Finnigan 30044556
Yiyun Shi 30017738
Nanjia Wang 30049414

Add Your Rental History

98102651077525556: Cozy Apartment
98102651077525560: Penthouse
98102651077525562: Townhouse

Choose Previous Rental Property: 98102651077525556 ▼

Describe Your Rental History (Maximum 100 characters):

98102651077525556

98102651077525560

98102651077525562

Add Rental History

Finally, tenant can logout or close the tab.

Kaitlin de Chastelain Finnigan 30044556

Yiyun Shi 30017738

Nanjia Wang 30049414

Appendix

Tables for

Landlord:

| USER_ID | NAME | PHONE_NUMBER | AGE | EMAIL_ADDRESS |
|-------------------|----------------|--------------|-----|-------------------------|
| 98102651077525554 | Genna Williams | 1234567890 | 39 | genna@exampleDomain.com |
| 98102651077525558 | James Jones | 1234567890 | 54 | james@exampleDomain.ca |
| 98102651077525571 | Jane | 9999999999 | 67 | jane@exampleDomain.ca |
| 98102651077525574 | amanda | 5777778888 | 34 | amanda@ex.ca |
| 98102651077525577 | Eunice | 5881230000 | 29 | name@example.com |

Tenant:

| USER_ID | NAME | PHONE_NUMBER | AGE | EMAIL_ADDRESS | CREDIT_SCORE | LANDLORD_ID | RENTAL_AGREEMENT_ID |
|-------------------|---------|--------------|-----|--------------------------|--------------|-------------------|---------------------|
| 98102651077525563 | Kaitlin | 1111111111 | 20 | kaitlin@exampleDomain.ca | 800 | 98102651077525554 | 98102651077525565 |
| 98102651077525566 | Noah | 2222222222 | 19 | noah@exampleDomain.ca | NULL | NULL | NULL |
| 98102651077525580 | Yiyun | 4031119999 | 25 | no@me.com | NULL | NULL | NULL |

Application:

| APPLICATION_ID | STATUS | REQUIREMENTS | RENTAL_PROPERTY_ID | TENANT_ID | LANDLORD_ID |
|-------------------|---------|--------------|--------------------|-------------------|-------------------|
| 98102651077525564 | Pending | NULL | 98102651077525556 | 98102651077525563 | 98102651077525554 |
| 98102651077525569 | Pending | NULL | 98102651077525560 | 98102651077525566 | 98102651077525558 |
| 98102651077525581 | Pending | NULL | 98102651077525560 | 98102651077525580 | 98102651077525558 |
| 98102651077525582 | Pending | NULL | 98102651077525576 | 98102651077525580 | 98102651077525574 |

Bylaw:

| AGREEMENT_ID | BYLAW_NAME | BYLAW_DESCRIPTION |
|-------------------|-------------|---|
| 98102651077525565 | Quiet Hours | Quiet Hours Are 21:00 - 6:00 |
| 98102651077525570 | Quiet Hours | Quiet Hours are 00:00 - 04:00. These must be Respe... |

Invoice:

| INVOICE_ID | AMOUNT | LANDLORD_ID | TENANT_ID |
|-------------------|--------|-------------------|-------------------|
| 98102651077525584 | 2000 | 98102651077525554 | 98102651077525563 |

Kaitlin de Chastelain Finnigan 30044556

Yiyun Shi 30017738

Nanjia Wang 30049414

Location:

| LOCATION_ID | COUNTRY | CITY | COMMUNITY | STREET_ADDRESS | UNIT_NO |
|-------------------|---------|---------|------------|------------------|---------|
| 98102651077525555 | Canada | Calgary | Kensington | Example St | 14 |
| 98102651077525559 | Canada | Calgary | Downtown | 1st St | 541 |
| 98102651077525561 | Canada | Calgary | Strathcona | Acorn Way | 0 |
| 98102651077525575 | Canada | Calgary | Brentwood | University Drive | 11 |
| 98102651077525578 | Canada | Calgary | Edegemont | Edendale Way | 12 |

Reference Letter:

| TENANT_ID | LETTER |
|-------------------|---|
| 98102651077525563 | Please feel free to call me at 1234444444 or write... |
| 98102651077525563 | To whom it may concern, This letter is written wi... |
| 98102651077525566 | This tenant was ideal! |
| 98102651077525566 | To Whom it May Concern: Please be informed that Te... |
| 98102651077525580 | If given the chance, I would gladly rent to them a... |

Rental Agreement:

| AGREEMENT_ID | ISSUE_DATE | EXPIRY_DATE | LANDLORD_ID | DATE_CREATED | LANDLORD_SIGNATURE | TENANT_SIGNATURE | TENANT_ID | DATE_ACCEPTED | DESCRIPTION |
|-------------------|------------|-------------|-------------------|--------------|--------------------|------------------|-------------------|---------------|---|
| 98102651077525565 | 2019-04-11 | 2019-08-01 | 98102651077525554 | 2019-04-11 | Genna Williams | Kaitlin | 98102651077525563 | 2019-04-12 | This is a formal Rental Agreement for Residence In... |
| 98102651077525570 | 2019-04-11 | 2019-05-08 | 98102651077525558 | 2019-04-11 | James Jones | NULL | 98102651077525566 | NULL | This is the Agreement for the Penthouse. Outlined ... |
| 98102651077525583 | 2019-04-01 | 2020-09-01 | 98102651077525554 | 2019-04-01 | G | NULL | 98102651077525563 | NULL | \$2000 per month |

Rental History:

| USER_ID | RENTAL_HISTORY_ID | DESCRIPTION |
|-------------------|-------------------|-------------------------|
| 98102651077525563 | 98102651077525556 | I lived with my friends |
| 98102651077525580 | 98102651077525560 | 3 years |

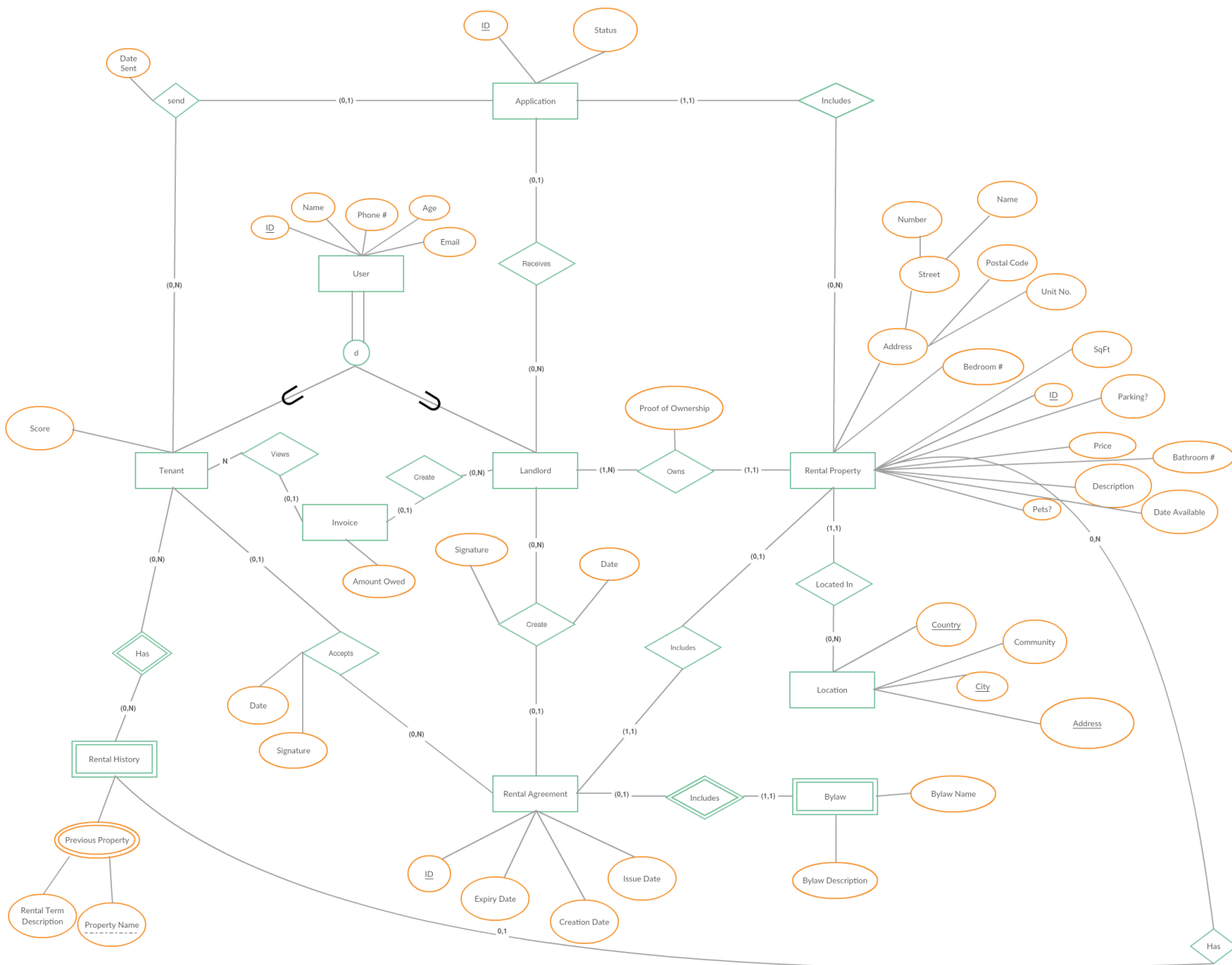
Rental Property:

| PROPERTY_ID | PROPERTY_NAME | AGREEMENT_ID | SQFT | PRICE | BEDROOM_COUNT | BATHROOM_COUNT | PARKING? | PETS? | STREET_NO | STREET_NAME | POSTAL_CODE | UNIT_NO | DATE_AVAILABLE | PROPERTY_LOCATION | LANDLORD_ID | PROOF_OF_OWNERSHIP |
|-------------------|----------------------|--------------|------|-------|---------------|----------------|----------|-------|-----------|------------------|-------------|---------|----------------|-------------------|-------------------|--------------------|
| 98102651077525556 | Cozy Apartment | NULL | 600 | 1000 | 1 | 1 | 1 | 1 | 78 | Example St | T73 1S6 | 14 | 2019-09-01 | 98102651077525555 | 98102651077525554 | 1 |
| 98102651077525560 | Penthouse | NULL | 1000 | 2000 | 2 | 1 | 1 | 1 | 76 | 1st St | T4E 9S2 | 541 | 2019-08-01 | 98102651077525559 | 98102651077525558 | 1 |
| 98102651077525562 | Townhouse | NULL | 2500 | 1500 | 3 | 2 | 1 | 1 | 27 | Acorn Way | TB3 E47 | 0 | 2019-06-01 | 98102651077525561 | 98102651077525556 | 1 |
| 98102651077525576 | University Apartment | NULL | 800 | 1200 | 2 | 1 | 1 | 1 | 0 | University Drive | T3K5J8 | 11 | 2016-01-22 | 98102651077525575 | 98102651077525574 | 1 |
| 98102651077525579 | house | NULL | 3000 | 5000 | 5 | 3 | 1 | 0 | 0 | Edendale Way | T3A3Y3 | 12 | 1996-03-11 | 98102651077525578 | 98102651077525577 | 1 |

Kaitlin de Chastelain Finnigan - 30044556

Yiyun Shi - 30017738

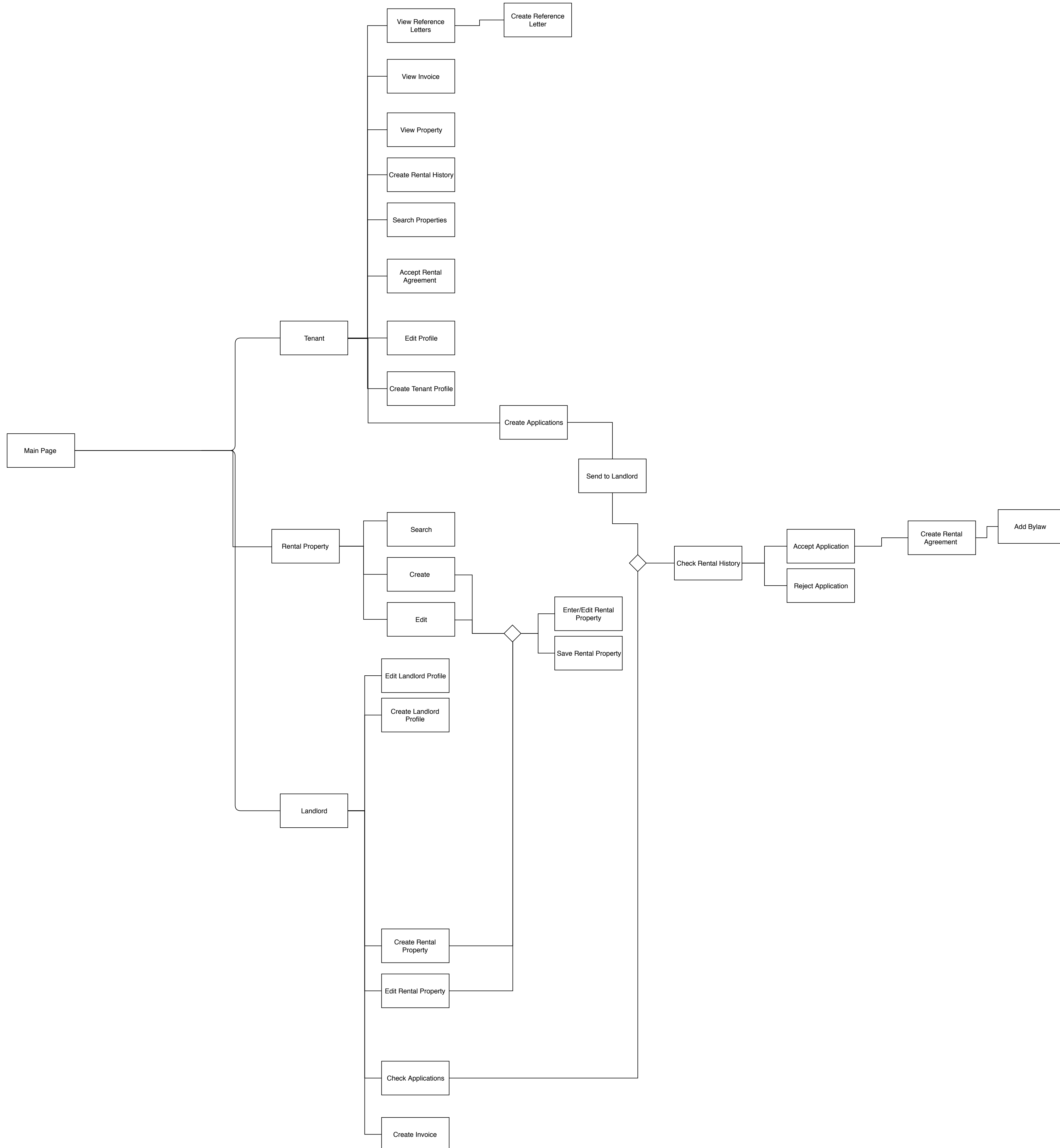
Nanjia Wang - 30049414



Assumptions:
1. tenant can only live in one place
2. multiple tenants can rent same place
3. a landlord must own at least one property

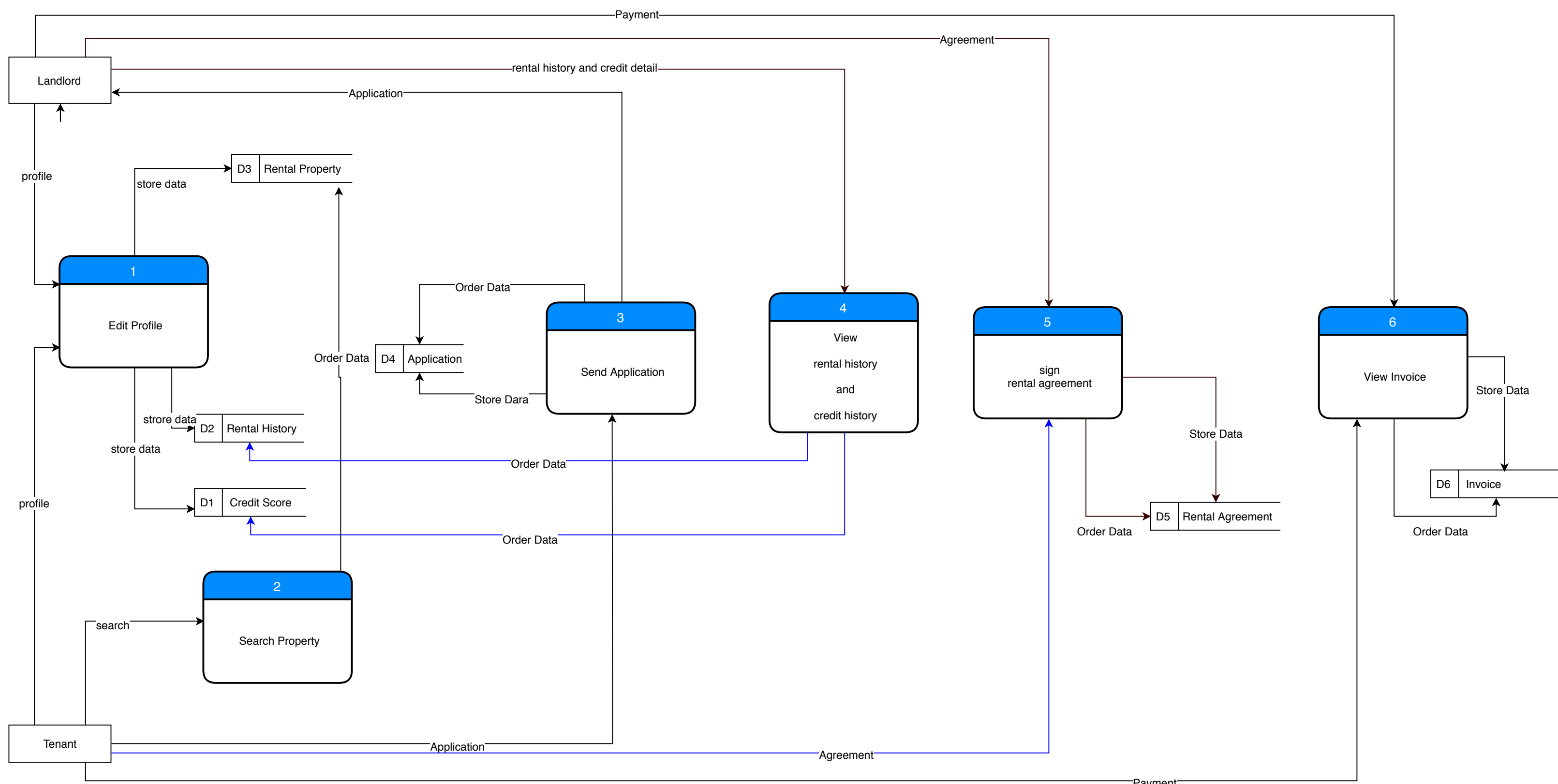


HIPO



DFD

Level 0 DFD



Context Diagram

