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iRent

Written report

South

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# **Introduction**

iRent is an application that allows both landlord and tenant to manage their rents. The app provides many features, we can highlight, post properties, search for a new home, real-time chat, payment, and reviews.

The proposal of this written report is to show the technical specifications of iRent, in order to make a good design we have made some researches, the information that was collected was used as input of the design process.

In this document you will find the iRent’s design specification, such as database schema, process workflow, wireframe, test cases, and others.

# **Front-end**

**A close up of a logo

Description automatically generated**

iRent will be developed for iOS, Android and Web, we have divided this project in two phases, we are going to release iRent for iOS first and then for Android and Web. We have chosen iOS as the main platform because according to some researches iPhone has the 54% of the Canadian market.

# A picture containing drawing Description automatically generated**Back-end**

For the iRent’s back-end, we are implementing Firebase services. Firebase is a set of tools offered by Google to build excellent scalable applications in the cloud. It is a powerful service that helps in building applications quickly without reinventing the components or modules.

## **Authentication**

Firebase Auth provides various methods to authenticate that includes email and password. Additionally, more methods are available to authenticate 3rd party providers like Google and Facebook.

## **Real time database**

This feature ensures that the data between the users are stored and synchronized in real time with the help of the NoSQL database.

## **Storage**

Firebase SDK for Cloud Storage works regardless of the network quality. in other words, if a file stops uploading because of slow Internet connection, the process will be automatically restarted.

# **Database design**

We are going to use Firebase Real-Time as a database provider for iRent, we have chosen this service because firebase helps in the easy storing and retrieval of dynamic content. Also, Firebase for mobile app development is scalable and accessible from client devices.

This real-time database is NoSQL, and the data is stored in JSON format. We designed this database base on the iRent requirements, our main idea to have a strong structure and get the data as quick as possible, to provide a good user experience.

We have made an Entity Relationship diagram to represent our database schema.

A screenshot of a video game

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# **Wireframes**

In this section, you will have a sample of the app’s design and pages.

The design was focused on usability and present the user a very decent an easy tool to rent their lovely home.

**A screenshot of a cell phone

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Description automatically generatedA close up of a device

Description automatically generated**

Launch Screen Search Properties Map

A picture containing meter

Description automatically generatedA close up of a device

Description automatically generatedA screenshot of a cell phone

Description automatically generated

Property Page List Properties Application Page 1

A screenshot of a cell phone

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Application Page 2 Application Page 3 Real Time Chat

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Private chat Menu Payments

A screenshot of a cell phone

Description automatically generatedA picture containing meter

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Description automatically generated

My properties Premium Post Property Page 1

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Post Property Page 2 Post Property Page 3 Complaint’s Page

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Description automatically generatedA screenshot of a cell phone

Description automatically generated Create a Complaint/Ticket Login Sign up

A screenshot of a cell phone

Description automatically generatedA screenshot of a cell phone

Description automatically generatedA picture containing meter

Description automatically generated

Reset Password Tenant Profile Landlord Profile

# **Test Cases**

In this section, you will see all the test cases that we have prepared to test iRent, the idea is to test the application, identify issues, and fix them before its release.

In order to better comprehension, we have organized these cases into a table, here you will find a short description, steps, input, and the expected output.

## **Search**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Scenario ID** | Search-1 | **Test Case ID** | Search-1A |
| **Test Case Description** | Search- Positive test | **Test Priority** | High |
| **Pre-Requisite** | N/A | **Post-Requisite** | N/A |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test Execution Steps: | | | | | | |
| **S. No** | **Action** | **Inputs** | **Expected Output** | **Actual Output** | **Test Result** | **Test Comments** |
| 1 | Launch Application | N/A | Launch Screen with the Logo and after, Search Page. |  |  |  |
| 2 | Enter a Location or city and hit the search icon or Go button at Keyboard | Toronto, ON | A map showing options for the city searched. |  |  |  |

## **Sign Up**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Scenario ID** | Sign Up | **Test Case ID** | Sign Up -1A |
| **Test Case Description** | Sign Up with email and password – Positive case | **Test Priority** | High |
| **Pre-Requisite** | Search | **Post-Requisite** | N/A |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test Execution Steps: | | | | | | |
| **S. No** | **Action** | **Inputs** | **Expected Output** | **Actual Output** | **Test Result** | **Test Comments** |
| 1 | Tap on menu on the bottom bar | N/A | Main Menu |  |  |  |
| 2 | Tap on the login button. | N/A | Login shows up |  |  |  |
| 3 | Tap on Register Now button | N/A | Sign up shows up |  |  |  |
| 4 | Enter first name, last name, phone number, date of birth, email, password and confirm password. Tap on Sign Up button | **First name:** John  **Last name:** Wick  **Phone number:** 437-898-9933  **Date of Birth:** July 1st, 1980  **Email:** [john.wick@hitman.com](mailto:john.wick@hitman.com)  **Password:** ILoveMyDog69!  **Confirm password:** LoveMyDog69! | Sign up success |  |  |  |
| 5 | Keep any required field empty, such as first name, last name, phone number, date of birth, email, password and confirm password.  Tap on Sign Up button | **First name:** “”  or  **Last name:** “”  or  **Phone number:** “”  or  **Date of Birth:** “”  or  **Email:** “”  or  **Password:** “”  or  **Confirm password:** “” | **Message**: The field [Empty Field] is required.  Focus on the empty field. |  |  |  |
| 6 | Enter different values into the fields passwords and confirm passwords | **Password:** ILoveMyDog69!  **Confirm password:** AnotherPassword89! | **Message**: Passwords do not match.  Focus on the field password. |  |  |  |

## **Sign In**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Scenario ID** | Sign In | **Test Case ID** | Sign In -1A |
| **Test Case Description** | Sign in with email and password, Facebook and Google | **Test Priority** | High |
| **Pre-Requisite** | Search | **Post-Requisite** | N/A |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test Execution Steps: | | | | | | |
| **S. No** | **Action** | **Inputs** | **Expected Output** | **Actual Output** | **Test Result** | **Test Comments** |
| 1 | Tap on menu on the bottom bar | N/A | Main Menu |  |  |  |
| 2 | Tap on the login button. | N/A | Login shows up |  |  |  |
| 3 | Enter correct email and password. Tap on Login button | email: [xxxxxx@xxxxx.xxx](mailto:xxxxxx@xxxxx.xxx)  Password: \*\*\*\*\*\*\*\* | Login success |  |  |  |
| 4 | Select Facebook authentication. Enter account and password. | Facebook account: [xxxxxx@xxxxx.xxx](mailto:xxxxxx@xxxxx.xxx)  Password: \*\*\*\*\*\*\*\* | Login success |  |  |  |
| 5 | Select Google authentication. Enter account and password. | Google account: [xxxxxx@gmail.xxx](mailto:xxxxxx@gmail.xxx)  Password: \*\*\*\*\*\*\*\* | Login success |  |  |  |
| 7 | Enter invalid email and password. Tap on Login button | email: [xxxxxx@xxxxx.xxx](mailto:xxxxxx@xxxxx.xxx)  Password: \*\*\*\*\*\*\*\* | **Message**: Invalid email or password. Please try again. |  |  |  |
| 8 | Keep email or password empty. Tap on Login button. | email:  Password: | **Message**: Email and password are required.  Focus on the empty field. |  |  |  |
| 9 | Select Facebook authentication. Enter invalid account and password. | Facebook account: [xxxxxx@xxxxx.xxx](mailto:xxxxxx@xxxxx.xxx)  Password: \*\*\*\*\*\*\*\* | **Message**: invalid Facebook account or password. |  |  |  |
| 10 | Select Google authentication. Enter invalid account and password. | Google account: [xxxxxx@gmail.xxx](mailto:xxxxxx@gmail.xxx)  Password: \*\*\*\*\*\*\*\* | **Message**: Invalid Facebook account or password. |  |  |  |

## **Post Property**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Scenario ID** | Post property | **Test Case ID** | Post Property -1A |
| **Test Case Description** | Post landlord’s properties and their specifications | **Test Priority** | High |
| **Pre-Requisite** | Search | **Post-Requisite** | N/A |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test Execution Steps: | | | | | | |
| **S. No** | **Action** | **Inputs** | **Expected Output** | **Actual Output** | **Test Result** | **Test Comments** |
| 1 | Tap on menu on the bottom bar | N/A | Main Menu |  |  |  |
| 2 | Tap on My Properties button. | N/A | Landlord properties show up |  |  |  |
| 3 | Tap on New Property | N/A | New property screen appears |  |  |  |
| 4 | Enter the correct title, description, type, number of rooms, address, postal code, price, heating, balcony, fireplace, air conditioning, laundry, parking, availability.  Attach Photos.  Specified required documents.  Tap on Post and confirm. | **Title**: “One-bedroom apartment for rent”  **Description**: [Long description]  **Type**: Apartment  **Number of rooms**: 1  **Address**: 265 Yorkland Blvd #400, North York  Postal Code: ON M2J 1S5  **Price**: 2150.00  **Fireplace**: true  **Heating**: true  **Air conditioning**: false  **Laundry**: true  **Parking**: false  **Availability**: From September 1st, 2020 to August 31st, 2021  **Photos:** Upload 4 photos of the property.  **Documents**: Ask for employment letter and credit score. | **Message**: Property posted successfully |  |  |  |
| 5 | Keep any required field empty, such as title, description, type, address, postal code, price and availability. | **Title**: “”  or  **Description**: “”  or  **Type**: “”  or  **Number of rooms**: 0  or  **Address**: “”  or  **Price**: 0.00  or  **Availability**: “” | **Message**: The field [Empty Field] is required.  Focus on the empty field. |  |  |  |
| 6 | In availability, enter an end date less than start date. | **End date**: September 1st, 2020  **Start date**: August 31st, 2021 | **Message**: Invalid range of date.  Focus on the availability. |  |  |  |

## **Submit Application**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Scenario ID** | Submit application | **Test Case ID** | Submit application -1A |
| **Test Case Description** | Tenant applies for a new place | **Test Priority** | High |
| **Pre-Requisite** | Search | **Post-Requisite** | N/A |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test Execution Steps: | | | | | | |
| **S. No** | **Action** | **Inputs** | **Expected Output** | **Actual Output** | **Test Result** | **Test Comments** |
| 1 | Select a place | N/A | Property details |  |  |  |
| 2 | Tap on My Properties button. | N/A | Landlord properties show up |  |  |  |
| 3 | Tap on Apply button | N/A | Application screen shows up |  |  |  |
| 4 | Enter a comment and attach the required documents.  Tap the Submit button. | **Comment**: “Hi, good morning. I’m interested in your place. Please find attach all the required documents. I look forward to hearing from you.”  **Documents**: Submit required documents. | Application submitted successfully |  |  |  |
| 5 | Keep the comment field or the document list empty.  Tap the submit button. | **If Comment**: “”  or  **Documents**: [Empty] | **Message**: The field [Empty Field] is required.  Focus on the empty field. |  |  |  |

## **Make Payment**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Scenario ID** | Make payment | **Test Case ID** | Make payment -1A |
| **Test Case Description** | Make payment | **Test Priority** | High |
| **Pre-Requisite** | Search | **Post-Requisite** | N/A |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test Execution Steps: | | | | | | |
| **S. No** | **Action** | **Inputs** | **Expected Output** | **Actual Output** | **Test Result** | **Test Comments** |
| 1 | Tap on menu on the bottom bar | N/A | Main Menu |  |  |  |
| 2 | Tap on Payments. | N/A | Payment screen shows up |  |  |  |
| 3 | Tap on Pay Bill button | N/A | Credit Card input shows up |  |  |  |
| 4 | Enter credit card name, credit card number, expiration date and security code.  Tap on proceed. | **Credit Card Name**: John Wick  **Credit Card Number:** XXXX-XXXX-XXXX-XXXX  **Expiration Date:** 12/22  **Security Code:** 989 | **Message**: Payment applied successfully |  |  |  |
| 5 | Enter invalid credit card name, credit card number, expiration date or security code.  Tap on proceed. |  | **Message**: Invalid Credit Card. |  |  |  |

## **Open Complaint**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Scenario ID** | Open complaint | **Test Case ID** | Open complaint -1A |
| **Test Case Description** | Open complaint | **Test Priority** | High |
| **Pre-Requisite** | Search | **Post-Requisite** | N/A |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test Execution Steps: | | | | | | |
| **S. No** | **Action** | **Inputs** | **Expected Output** | **Actual Output** | **Test Result** | **Test Comments** |
| 1 | Tap on menu on the bottom bar | N/A | Main Menu |  |  |  |
| 2 | Tap on Complaints. | N/A | Complaint screen shows up |  |  |  |
| 3 | Tap on Open a Ticket | N/A | Complaint screen shows up |  |  |  |
| 4 | Enter title, description, urgency and select the property.  Open ticket. | **Title: “**Basement flooded”  **Description**: [Long Text]  **Property:** Select property  **Urgency**: Check ASAP | **Message**: Complaint submitted |  |  |  |
| 5 | Keep any required field empty, such as title, description, urgency or select the property.  Open ticket. | **Title: “**”  or  **Description**:”” | **Message**: The field [Empty Field] is required.  Focus on the empty field. |  |  |  |

# **Monetization**

In order to make money, we have decided to implement the subscription model. There will be 2 plans, basic and premium, the premium plan will provide more features than the basic, such as unlimited properties and marketing plan.



A screenshot of a cell phone

Description automatically generatedThe user will be able to acquire the premium plan through the application paying 5.99 per month.

According to the marketing plan we are going to get 19,204 in the first year, based on this we have estimated the profit per month.



# **Competitors**

Nowadays, it is very hard to find our perfect home in Canada. There are many websites and apps, sometimes we have to use some of them at the same time and our search becomes overwhelming and right after getting our place, we realize that it is not what we thought.

We have done a survey in order to know what apps are the most popular in the market.

## **A picture containing drawing Description automatically generatedKijiji**

It is an online classified advertising service that operates as a centralized network of online communities, organized by city and urban region, for posting local advertisements. Real estate is not the main business of Kijiji; however, it is very popular for renting.

## **Facebook Marketplace**

![A picture containing table, shirt

Description automatically generated]()Marketplace allows Facebook users post pictures of their garage sale items and collectibles and browse items offered by nearby sellers as well. The sellers set the price, but would-be buyers are welcome to counter with another offer.

## **PadMapper**

![A picture containing drawing

Description automatically generated]()It is a map-based design application that helps when your apartment search is neighbourhood-driven, this application allows you to filter by number of rooms, price, and type of accommodation. There are some applications with the same characteristics, such as Toronto Rentals, Realtor and View It.

## **Airbnb**

![A picture containing food, drawing, player, light

Description automatically generated]()It is a vacation rental online marketplace application. Airbnb and iRent are similar in some features, however, Airbnb is oriented to short-term stays, such as vacations, business travel and so on.