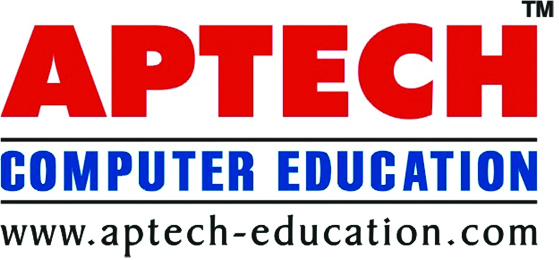
**APTECH COMPUTER EDUCATION**

**FPT – APTECH VIET NAM**

-----------~~~-----------



**PROJECT NAME:**

### NTB Stamp Duty

### and Registration Details

|  |  |
| --- | --- |
| **Design by:** | ***Nguyen Ngoc Phan Anh***  ***Phan Van Sang***  ***Nguyen Tuan Anh*** |
| **Class:** | ***Batch C1212L*** |
| **Group:** | ***1*** |
| **Instructor:** | ***Mr. Nguyen Tuan*** |

# 1. Problem Definition

*Introduction:*

Our client, “**National Territory Builders**” **(NTB)** is one of the famous builders in the territory, who constructs the buildings for residential and the commercial purposes, and takes up the contracts for and supervising the constructions or repair or re-modeling of the houses or buildings or complexes or offices. Once the buildings are constructed, they advertise about the buildings constructed, with the help of the hoardings, new papers, etc. so that they reach out for the customers, who might be interested in owning (purchasing) the same from the builder.

***Existing Scenario:***

Currently they follow the following procedures.

They first own a land, and then they will lay out a plan and design the model of the building and then apply for the approval of the building permit. Once they receive the permission for constructing a building from the government, they start up with the plan as designed and laid by them for constructing it.

Once they are done with the construction of the building, they apply for the approval of the occupancy permit to the respective department of the government. Once the Occupancy permit is attained, they start advertising about the sale of the building (s) thus constructed, for whom they had received both the building permit and the occupancy permit.

The various procedures followed for advertising are done through news papers, hoardings, internet, etc. so that they can reach out to the customers, who might be interested in purchasing the same from the builder. The builder used to maintain the details of the sales done (i.e., the registrations happened, amount paid, etc.) in the form of documents and store them in files.

They used to maintain separate racks for maintaining these documents and files. One for maintaining the records which received building permit, other for the ones which received occupancy permit, other for the one which is waiting for the approval of the building permit, other for the one which is waiting for the approval of the occupancy permit, and the other for maintaining the sold out ones, and the other for the ones that are to be sold, others for maintaining the records of the rejected building permit, and the others for the rejected occupancy permit.

They are currently facing the following problems with the current system:

1. There is no proper tracking of the records, and there are chances of the slip-ups in the system or misplacement of the records, as the data is maintained in the form of the documents and files.
2. The details of the buildings, price charts, sales done (i.e., registration details, stamp duty details, payment details, etc.) are not in place.
3. There is no automation involved to speed up the tracking or any other business processes
4. Difficulties in communication and updating data due to distributed set up
5. Calculating the total charges for the ones that are to be sold (i.e., for the ones for which the occupancy permit is received)
6. Analyzing sales data to streamline constructed volumes
7. Preparing Invoices as well as dispatching the related documents and routing them to relevant departments or locations.

*Proposed Solution:*

The builder wants to incorporate an online application system through which he can automate the process and reduce the paper work by maintaining the whole data on to this application, so as to increase the rate of ease for tracking, and modifying the date that is once maintained.

Hence he approached us to help him, by understanding the process that they follow, and develop an online application for him, with the following functionalities included in it.

# 2. Customer Requirement Specification (CRS)

**User Profiles**

Use the following types are expected for project management website of real estate:

|  |  |
| --- | --- |
| **User** | **Brief Description of Use Actions** |
| Sales Representative | Download and upload information construction projects, manage customer information and registration information home buyers. See customer feedback and support from customer inquiries. |
| Manager | Having set the highest level as the financial management of customer returns and debt, see the customer statistics, decentralized accounts, ... |
| Customer | See information about the land, searching by individual requirements and can register to buy apartments in the projects of the company, and accounts to track project progress as well as the financial situation of the installment payment individuals in such projects. |

**Requirements Summary**

The following preliminary lists are based on initial interviews

**Non-Financial:**

1. The website should have the following modules
   * Administrator Module: In this module one must be able to administer the site, i.e., one must be able to maintain (insert, update, delete and retrieve) the details.
2. In the Administrator Module the following functionalities should be implemented.
   * One should be able to maintain the details of the various lands that they (NTB) own, along with the address, cost of the land when purchased, cost of the land at present, near by landmarks, area of the land, date of purchase of the land, the land id (it should be the unique one, and is to be auto generated based on the sequence), the location details like the name of the location (like which place in the territory).
   * The status of the land is to be maintained. (The status here will include whether they applied for the building permit or not, if applied, then whether the building permit is received or not, whether the building is constructed or not, whether they had applied for the occupancy permit or not, if yes, then whether the occupancy permit is received or not, whether it is sold or not). Also the date of receiving the building permit is to be maintained.
   * The various types of buildings that will be constructed (like whether is it an official complex, or residential complex or a shopping complex, etc.) are to be maintained.
   * The plan laid for the land is to be maintained like which type of the building (commercial, etc.) they want to construct on that particular land is to be maintained.
   * The building details are to be maintained, like
     1. The land details like the id of the land on which the building is constructed.
     2. What is the type of the building
     3. The name of the building.
     4. The location details like the name of the location (like which place in the territory).
     5. The building id (it should be the unique one, and is to be auto generated based on the sequence).
     6. How many floors are constructed
     7. How many rooms (for official complexes) or houses (for residential complexes) or shops (for shopping complexes) in each floor
     8. Date on which the building is constructed.
   * The status of the building is to be maintained. (The status here will refer to whether the building is completely constructed or not, if completed with the construction then whether they had applied for the occupancy permit or not, if yes then whether they had received the occupancy permit or not, whether the building is sold completely). Also the date of receiving the occupancy permit is also to be maintained.
   * The details of the rooms / houses / shops are to be maintained with respect to a building.
     1. The building type
     2. The building details, like name of the building, building id.
     3. The floor number in which it (room / house / shop) is available.
     4. Area in Sq. Ft. (Square Feet)
     5. Cost is to be automatically calculated based on the area of the opted one and the location in which the building is constructed).
   * The details of the price for the land are to be maintained based on the location, and the area. And this will be changing from time to time. And one must be able to keep track of the changes that had taken place in the price for that particular location.
   * Also the details of the charges for the stamp duty and the registration is also be maintained (it will be changing from time to time as per the government norms). All you have to do is create a form, on which one should be able to maintain (insert, update, delete) the charges for the Stamp duty and Registration.
   * The modes of payment permitted are to be maintained. In general, they allow the following modes of payment.
     1. Payment through Installments on a monthly basis for 2 years (for this the total interest that will be charged will be 5% of the total)
     2. Payment through Installments on an yearly basis for 2 years (for this the total interest that will be charged will be 3% of the total)
     3. One Time Payment
   * The detail of the sales of the buildings (either floor wise or house wise or shop wise) for which the occupancy permit is received is to be maintained along with the detailed descriptions. The detailed descriptions will include the following:
     1. The flat (house) or the shop or the floor opted for purchasing
     2. The total area (it is to be automatically calculated based on the ones opted for purchasing)
     3. The customer details (should include the name, address)
     4. The total cost (it is to be automatically calculated) for the ones opted for the purchase.
     5. The type of payment (it will include the mode of payment opted)
     6. The total payment that is to be done by the customer (It is to be automatically calculated based on the total cost of the one opted for the purchase, and the type of the payment mode opted).
     7. The total amount paid
     8. The total amount due
     9. The status of the sale. For this you must implement the following.
        + 1. The statement by default (if the total payment that is to be paid for the one purchased is not received) will be recorded as “Payment Not Received”
          2. If the total payment for the one purchased is done, then the status will be shown as either “Yet to be Registered” or “Registration and Stamp Duty is Done”
          3. If the status is displayed as “Yet to be Registered”, it will display a button “Register Now”. Which when clicked it will enable the fields through which one should be able to enter the payment received from the customer for the Registration and Stamp Duty.

As per the current process, the charges for the Registration and the Stamp Duty will be ‘250 $’, as per the Government norms. It can also be changed from time to time.

Once the total payment of the charges for the “Registration and the Stamp Duty” is received, the Stamp Duty and Registration will be done. And now one can select the option “Registration and Stamp Duty Done Successfully”. Only after selecting this option, and the complete payment of the Stamp Duty and Registration is received, the status of the sale will be recorded as “Registration and Stamp Duty is Done”

* + - * 1. If the status is displayed as “Registration and Stamp Duty is Done”, there will be no other functionalities, as the sale is done completely.

**Financial:**

The total charges are to be automatically calculated as specified in the Non-Financial Section of the specification. For your understanding we had illustrated you with the examples too.

Functional Requirements:

1. The database should contain the details of the lands, plan laid for the land, types of the buildings that are to be constructed, buildings, prices (for the land and that of the stamp duty charges), permit details (the details of the ones that received the building permit, the details of the ones that received the Occupancy permit), Status details (Building permit received, etc.), payment modes, Sale details, payment details.
2. One should be able to insert, update, delete and search and retrieve the records.
3. The advanced search option is to be implemented so as to fetch and retrieve the records.
4. One should be able to keep track of the details of the records
   * Which are to be applied for the building permit
   * the ones for which the building permit is received
   * the ones for which the occupancy permit is to be applied
   * Of the ones for which the occupancy permit is received
   * The ones that are sold
   * The ones that are to be sold

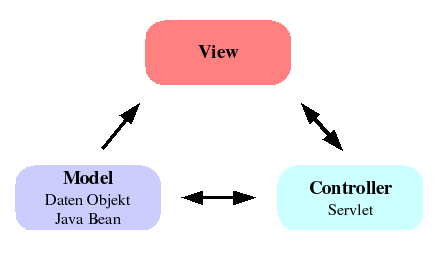
**Hardware Requirements:**

* A minimum computer system that will help you access all the tools in the courses is a Pentium 200 or a higher capability CPU
* 256 Megabytes of RAM or higher

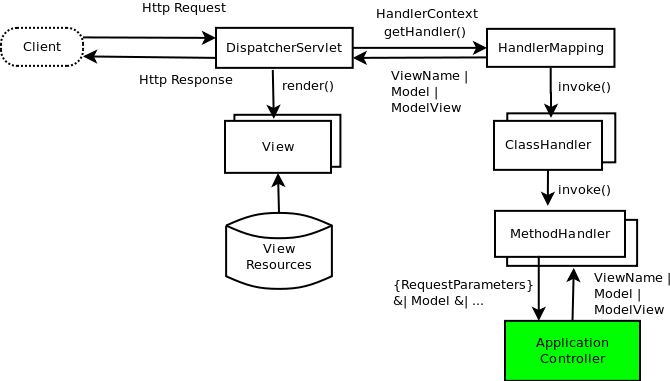
**Software Requirements:**

* Java EE 7.0
* NetBeans 8.0
* MS SQL Server 2005

# 3. Architecture and Design of the Project

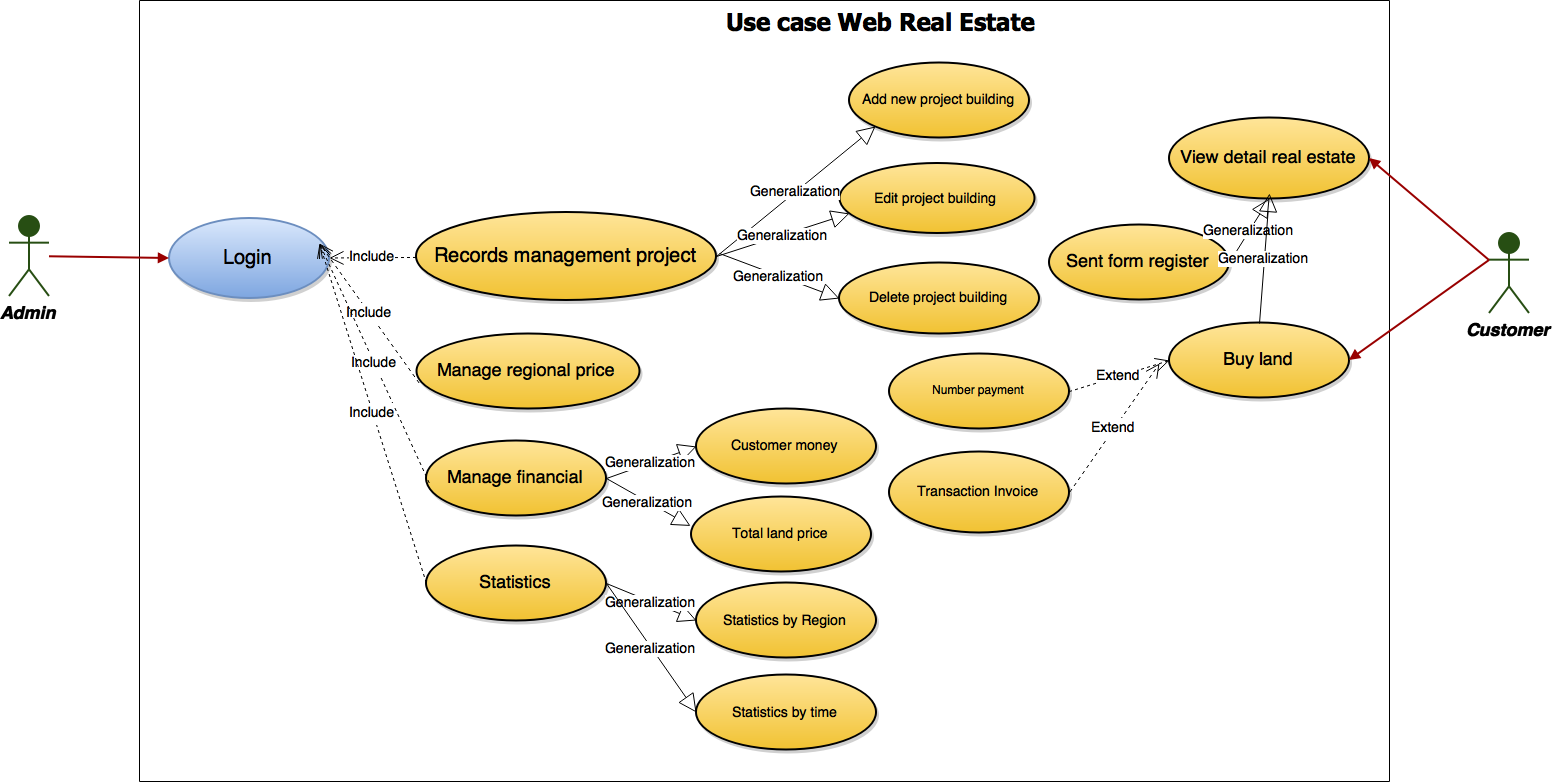


**Picture 1: Architecture MVC : Model view controller**

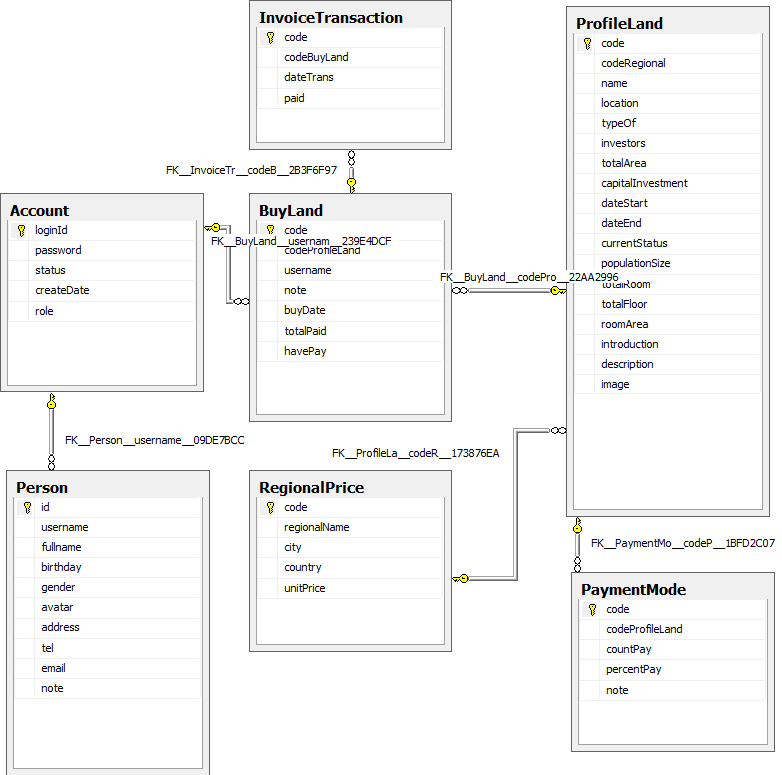


### Picture 2: MVC architecture with servlets and jsp

# 4. Data Flow Diagram

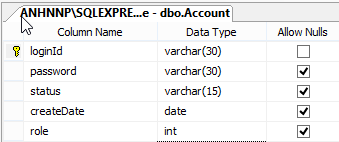


# 5. Entity Relationship (ER) Diagram

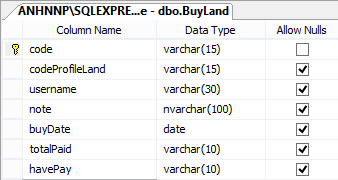


**E-R Diagram**

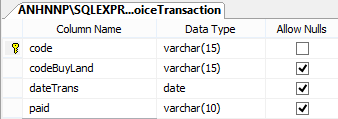
# 6. Database Design/Structure



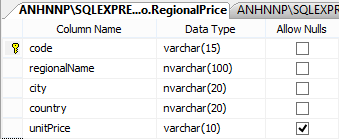
**Table Account**



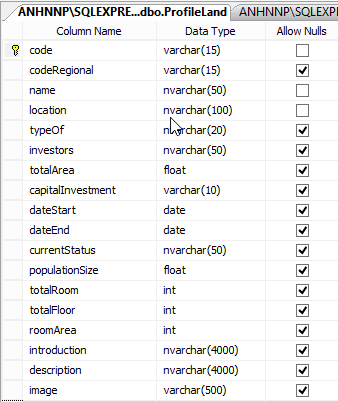
**Table BuyLand**



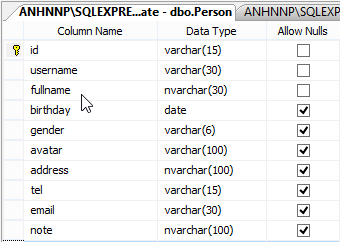
**Table InvoiceTransaction**



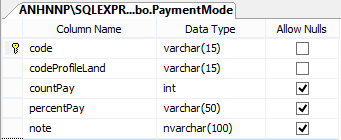
**Table RegionalPrice**



**Table ProfileLand**

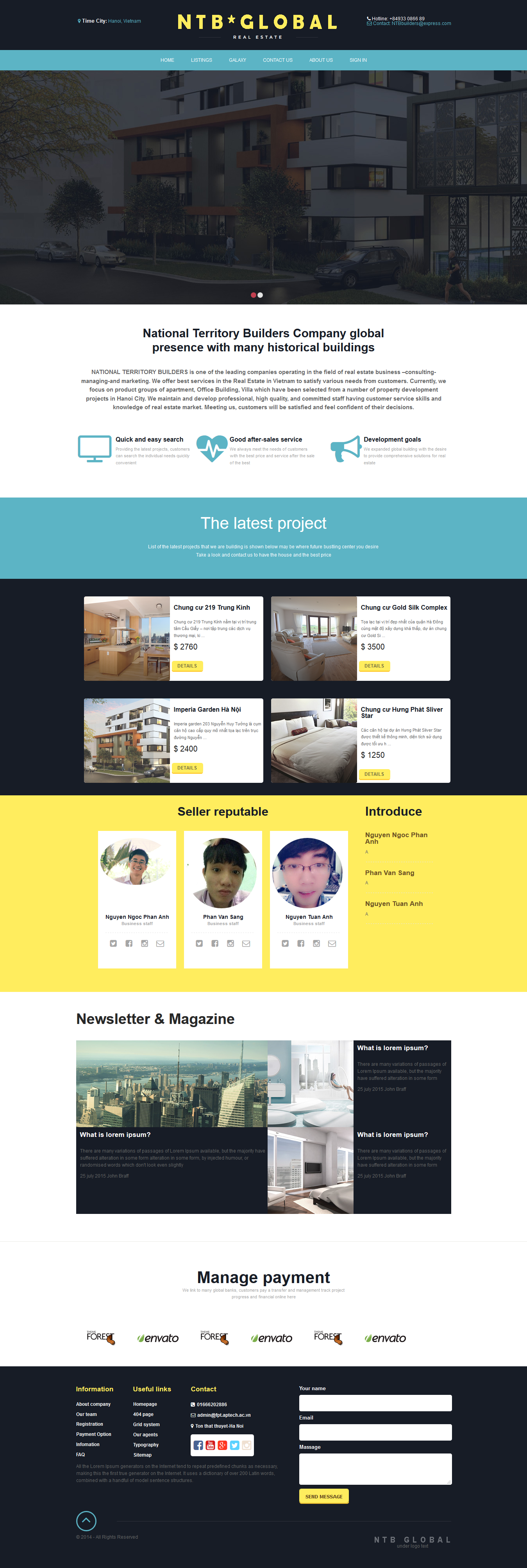


**Table Person**

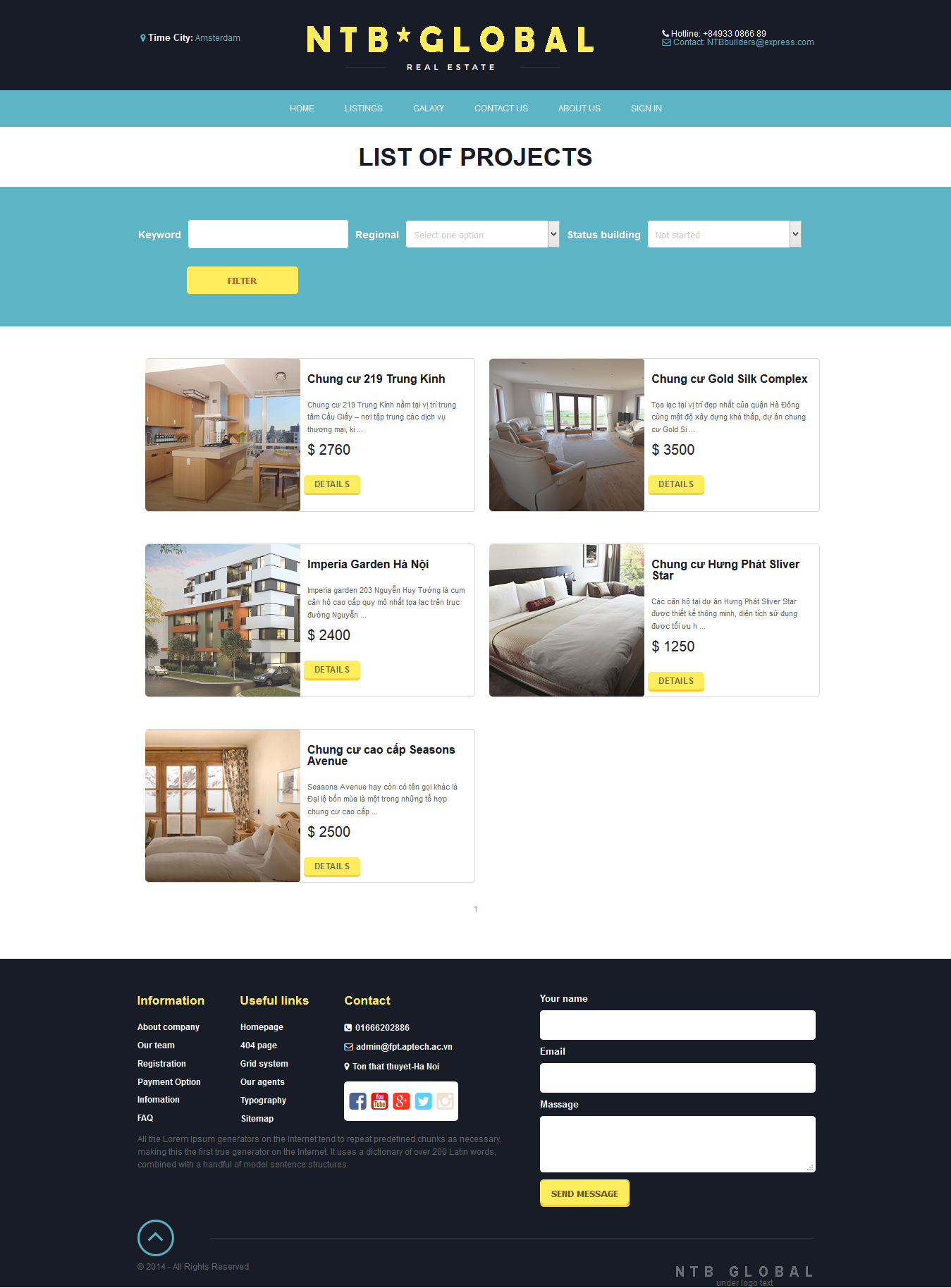


**Table PaymentMode**

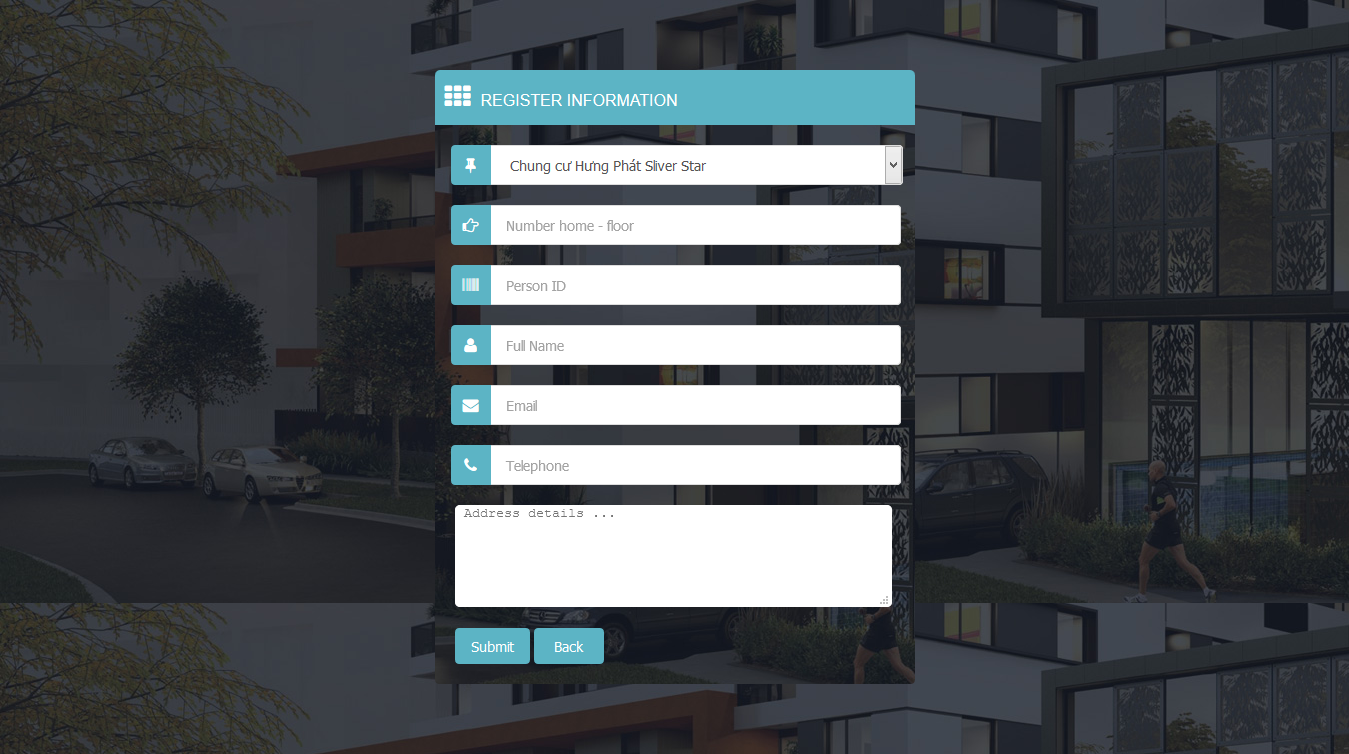
# 7. Website Design



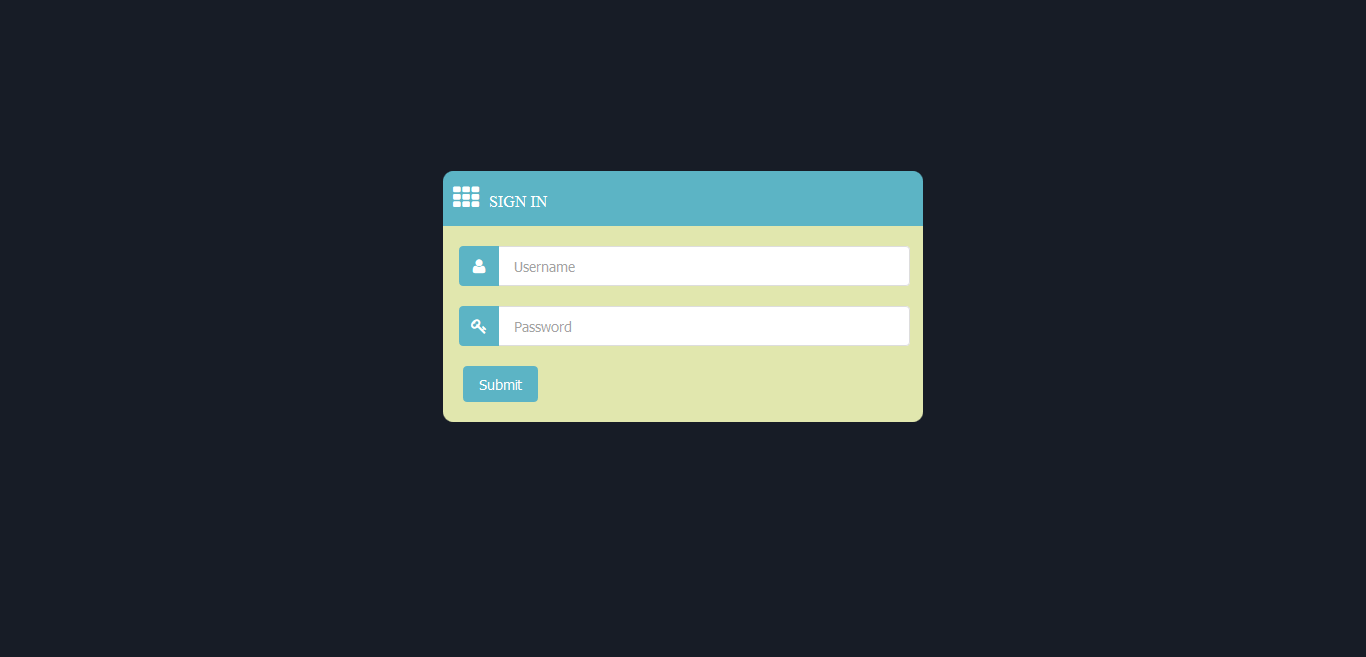
**Picture 1: UI Homepage**



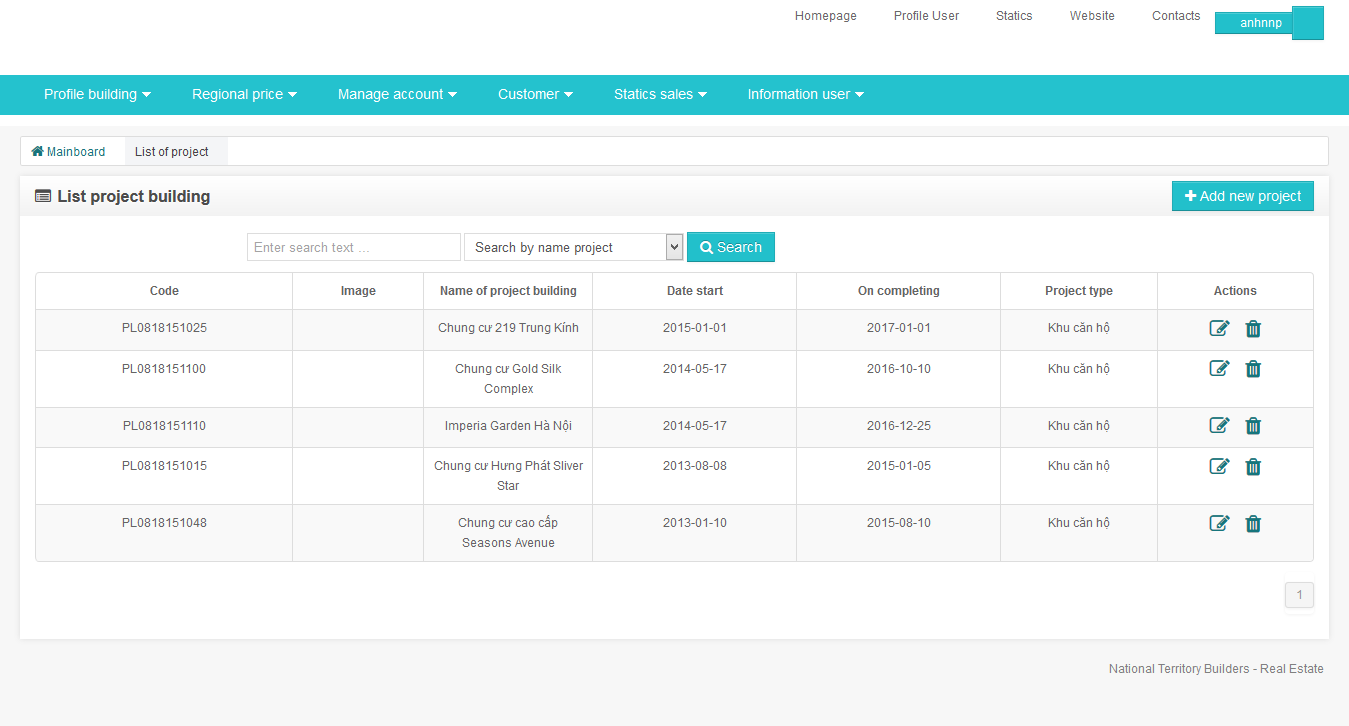
**Picture 2: UI Listing**



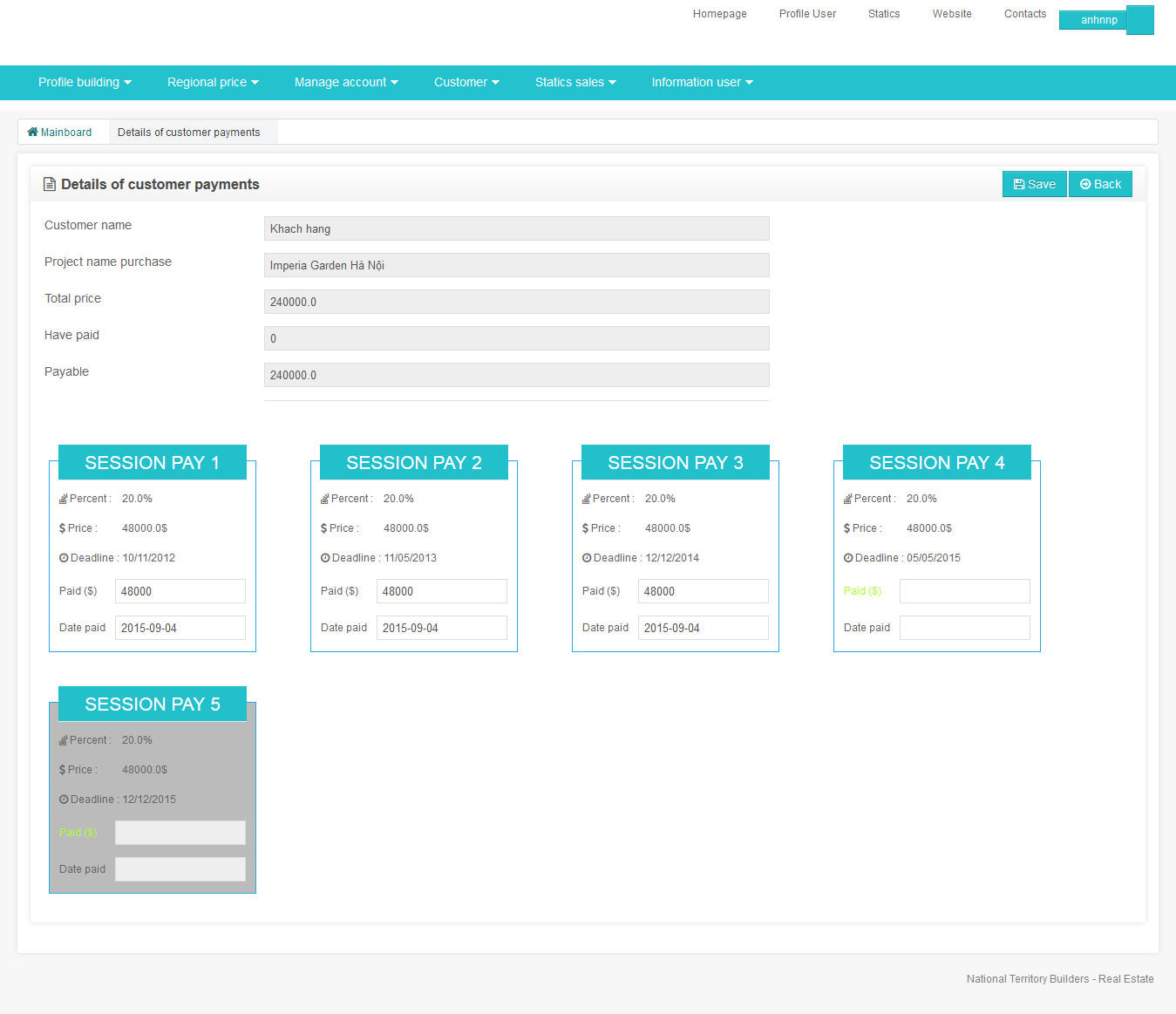
**Picture 3: UI Send register information customer**



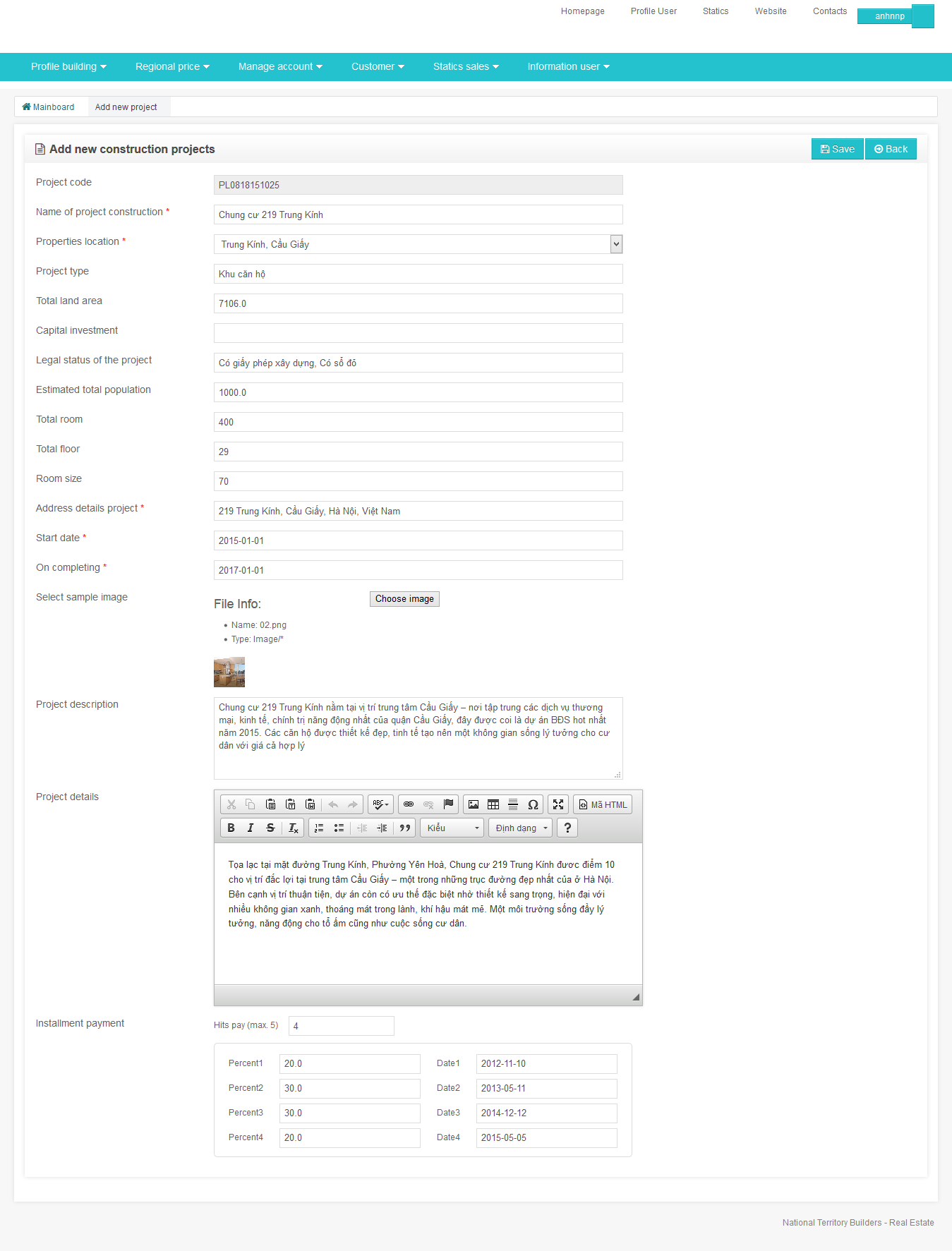
**Picture 4: UI Login**



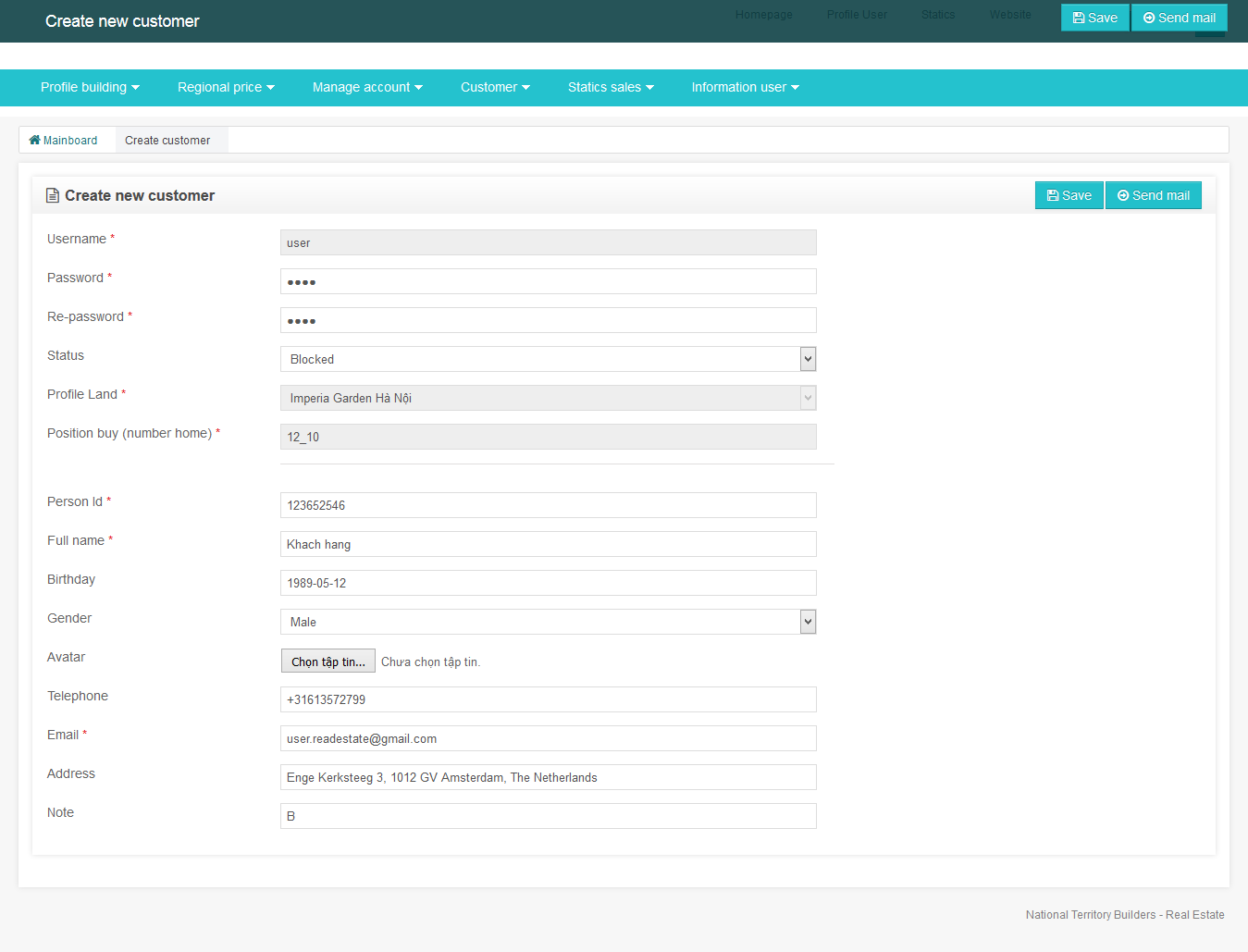
**Picture 5: UI Manager Profile Building**



**Picture 6: UI Manager Customer Payment**



**Picture 7: UI Edit Profile Building**



**Picture 8: UI Edit Profile Account Customer**

# 8. Checklist of Validations

|  |  |
| --- | --- |
| **Option** | **Validated** |
| Check the user logged into the site before management? | Yes |
| Check login account or decentralized management client? | Yes |
| Check the user input before sending it to the server? | Yes |
| Manage identical code or username? | No |

# 9. Submission Checklist

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sr. No.** | **Particulars** | **Yes** | **No** | **NA** | **Comments** |
| 1 | As administrator I want to sign project records management? | Yes |  |  |  |
| 2 | As I want to login Admin management of land prices by region? | Yes |  |  |  |
| 3 | As administrator I want to login to be able to add funds to the customer or salesperson based on customer for orders? | Yes |  |  |  |
| 4 | As manager I want to manage customer financing installments for each project? | Yes |  |  |  |
| 5 | As manager I want to create customer accounts and email account information to customers? | Yes |  |  |  |
| 6 | As my client can login to track projects and finance my installment? | Yes |  |  |  |
| 7 | As I can manage user account permissions for each function |  | No |  | Complex |
| 8 | As a customer I want to send registration information to buy land for a project? | Yes |  |  |  |