

**DESIGN AND IMPLEMENTATION OF A HOUSE ALLOCATION  
MANAGEMENT SYSTEM  
(A CASE STUDY OF PB DJEBA ESTATE, WARRI DELTA STATE)**

**BY**

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**BEING A PROJECT SUBMITTED TO THE DEPARTMENT OF  
COMPUTER SCIENCE, SCHOOL OF INFORMATION AND  
COMMUNICATION TECHNOLOGY, AUCHI POLYTECHNIC, AUCHI.  
EDO STATE**

**IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE  
AWARD OF HIGHER NATIONAL DIPLOMA(HND) IN COMPUTER  
SCIENCE.**

**DECEMBER, 2022.**

## CERTIFICATION

We the undersigned, certify that this project was carried out by **IKIYEGHA EKANKUMOR FRANK** with **MAT. NO. ICT/2252070286** in the Department of Computer Science. We also certify that the work is adequate in scope and quality in partial fulfillment of the requirements for the award of **Higher National Diploma (HND)** in Computer Science.

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## **DEDICATION**

This project is dedicated to God Almighty and to my parent.

## **ACKNOWLEDGEMENT**

My utmost gratitude goes to the giver of life, God Almighty for his love, protection, provision, and care throughout the course of my academic study.

My appreciation goes to my supervisor **MR. AKHETUAMEN SYLVESTER** for his directive and guidance at every stage of this research work and to the head of department of computer science **MR. AKHETUAMEN SYLVESTER** for his contribution. God bless you.

My special appreciation goes to my parents **MR. and MRS. PETER IKIYEGHA** for their moral, financial as well as their spiritual support throughout the period of my program. I pray that you would live to eat the fruit of your labor in Jesus name.

This project work is incomplete without the acknowledgement of my friends, cassava flakes (garri) for always being there for me. May God bless you all for me.

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## **ABSTRACT**

*Over time, manual approach of managing house allocation is being employed which has resulted in a lot of problem in estate management, these problems to mention few are, allocation of already allocated apartment due to lack of proper record, difficulty in calculating the general statistic, poor data security energy and time consuming among other. These aforementioned problems are talked with this new system by providing accuracy in general statistics, proper keeping of record. E.g. number of rooms let out, price and type of apartment, flat number, location of apartment, the data of employment of each staff in the quarters, rank of staff etc. This project is designed using php with xamppserver as data base. This project is recommended for all estate managements.*

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Mankind first of all must eat, drink, and have shelter and clothing before he can pursue politics, art and religion etc. (Frederick Engels, 2018). Shelter is necessary to everyone and the provision of housing, as a means of solving one of the urban problems is one of the concerns of Town Planning. Housing as defined by the United Nations (UN) encompasses the housing unit and the entire ancillary services as well as community facilities that are necessary for human well-being.

Housing, one of the physiological needs of man has become a global problem. Despite the emphasis being laid on housing provision by people and various Governments, this basic human need has continued to elude many (Onibokun, 2015, Car et al, 2015 and Abiodun, 2019). In developing countries such as Nigeria, governments have been making attempts at providing adequate housing to the low income earners but studies have shown that this category of household are 'not well benefited (Sani, 2018). Indeed, in many developing countries, the provision of shelter particularly for the low-income group is grossly inadequate. Despite the shelter programmes, projects and other forms of government action taken in many countries, the shelter problem prevails with increasing dimensions. Government involvement in the shelter sector ranges from the provision or completed housing units to several forms of supportive measures. Factors responsible for these problems include:

1. Government in Nigeria prefers solving housing problems through direct mass housing construction for staff accommodation and recently through partnerships for sale to individuals and organizations.
2. The cost of production of the houses by government is almost double the cost production of by an individual.
3. United Nations Development Programme (UNDP), the Federal Government, has been making attempts to solve low-income housing problems through allocation of Site and Serviced plots and direct construction of mass houses, such projects allocated to the Low-income earners, end with land speculators and requires long and complicated bureaucratic procedures and costs before they can be developed, thereby forcing the Low-income earners to look outside the government land allocation system to the informal ones (unplanned areas).
4. The housing process in Nigeria (legislation, planning, design, financing construction and maintenance) is unnecessarily too lengthy complicated and has lots of un-necessary bureaucratic bottlenecks.
5. The government-constructed houses for low- income housing lack maintenance programme to provide adequate housing.
6. The building code in Nigeria specifies the use of imported, modern building materials instead of locally produced materials that are more conducive to the environment. This contributes to the depletion of the country's foreign reserves and high cost of housing supply.

7. The houses built with the modern building materials, are neither adequate in terms of foreign standards nor bear any representation to our progressive cultural link to the past and environment.

## **1.2 Statement of the Problem**

Finding low cost housing is most difficult and tiresome, sometimes houses are available but the bureaucracies of locating one is, hence the need to have a software that can provide available properties to potential clients, the above review points to the need to find the answer to the question: Given the widespread acceptance of the project approach to shelter delivery for the urban poor, less privileged or displaced, how can housing projects, in developing countries like Nigeria, be made sustainable?

The sub questions are as follows:

- (a) How can housing projects be more responsive to the diverse needs of low- income households, less privileged or displaced?
- (b) How can housing projects provide a basis for addressing structural constraints in land and housing markets?
- (c) How can housing projects when accomplished be made available to the most vulnerable hitch free?

Managing these demands manually will pose great challenges and difficulties; hence there is a need to automate the management process.

## **1.3 Aim and Objectives**

The aim of this research work is to develop an automated housing allocation system. The objectives of this study are as highlighted below;

1. To provide a software that will keep information on houses available

2. Help managers determine the most vulnerable
3. Carry out data analysis and statistical inference.
4. Produce financial and customer reports with detailed statistical analysis.
5. Provide security to the client's data.

This aim is to put an end to the problems encountered during the manual process of house allocation. More also, the barriers limiting user and administrator in using the manual system will be ended with the development of a computerized system which can replace the old system.

### **1.5 Scope of the Study**

Every project is carried out to achieve a set of goals with some conditions keeping in mind that it should be easy to use, feasible and user friendly. As the goal of this project is to develop an application to manage house allocation efficiently especially for the large number of displaced, affected families or low income earners, this system will be designed keeping in mind the conditions (easy to use, feasibility and user friendly) stated above. The proposed project would cover:

1. Developing software to effectively manage real estates.
2. Implementing it on a computer system.
3. Helping real estate firms and government to allocate and manage houses

Anything outside of the above listed would not be covered.

### **1.6 Significance of the Study**

This research work is of great importance in that it seeks to provide innovative services relating to housing allocation such as providing information on land use as quickly as possible. Other benefits it offers are found in the following areas;

1. Updating and modification of information concerning buildings, social amenities in a country or area.
2. Faster and easier retrieval of estate information for instantaneous use of recipient such as government agencies, demographers, tourists and individuals.
3. Identification of the amenities in the Estate so as to know which other ones are needed.
4. Keep a database of all the lands and buildings in an estate.

### **1.7 Limitation of Study**

Some of the constraints of this project include the following

1. Time
2. Epileptic power supply
3. Data collection process
4. Financial resources

### **1.8 Definitions of Terms**

**ALLOCATION:** the act of deciding officially which person, company, area of business, etc. something should be given to, or what share of a total amount of something such as money or time should be given to someone to use in a particular way.

**HOUSING:** refers to the construction and assigned usage of houses or buildings collectively, for the purpose of sheltering people -the planning or provision delivered by an authority, with related meanings.

**MANAGEMENT:** Management is the function that coordinates the efforts of people to accomplish goals and objectives by using available resources efficiently and effectively. It includes planning, organizing, staffing, leading or directing, and controlling an organization or a system to accomplish a goal.

**AUTOMATION:** Automation is the use of various control systems for operating equipment or application with minimal or reduced human intervention.

**SYSTEM:** A system is a set of interacting or interdependent components forming an integrated whole. Every system is delineated by its spatial and temporal boundaries, surrounded and influenced by its environment, described by its structure and purpose and expressed in its functioning.

**SOFTWARE:** A computer program (set of instructions) that directs a computer to perform some processing function or combination of functions.

**LAND:** Land is the solid surface of the Earth that is not permanently covered by water. The vast majority of human activity occurs in land areas that support agriculture, habitat and various natural resources.

**PROPERTY:** Property is one or more components (rather than attributes), whether physical or incorporeal, of a person's estate; or so belonging to a person or jointly owned by a group of people or a legal entity like a corporation or even a society.

**SURVEY:** This can be seen as the mapping of the properties and varieties of soil in a given area. It could also mean the locating of structures relative to a reference line, used in the construction of buildings, roads, mines, and tunnels.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Overview of Related Literature**

Globally, shelter is accepted as an essential basic human need. It is regarded as a social responsibility by all nations of the world. The World Health Organization describes housing as "an enclosed environment in which man finds protection against the elements". This definition, according to Nwosu, (2022) "is partial and narrow and may have sufficiently served the pre-historic man whose main objective was to achieve bare existence within the circumstances dictated by his natural environment". Instead, as Nigeria's Third National Development Plan 1975-80 aptly puts it, "housing does not only represent one of the most basic human needs in terms of protection against natural elements, it also no doubt has "a profound impact on the health, welfare and productivity of the individual" (FRN 2018).

The essence of a literature review is to simplify the work of the researcher, by making her aware of the existing work and reveal the experiences and opinions of others in the area of investigation. The literature is thematically organized under the following sub-themes:

- i. Housing, Policy and Its Formulation in Nigeria.
- ii. Housing Policies in Nigeria - Pre and Post-Independence.
- iii. The nature of President Shehu Shagari's Housing Policy and the New National Housing Policy.

According to Abrams; (2019), "housing is not only shelter but part of the fabric of neighborhood life and of the whole social milieu, it touches on many facets of

industrialization, economic activity and development". Housing, Iyortyer, (2018) opines "is a strong indispensable casual element in all manner of progress initiated and sustained by both the individual and his society. Housing is the second most important requirement to man. It transcends simple shelter". According to Willey, (2019), "housing includes utilities and community services like electricity, water supply, good access roads, sewage and requires disposal facilities and access to employment".

Housing is important to the development of the society in both economic, social and welfare terms. Njoku, (2018) opines: "the quality and quantity of housing stock is a reliable barometer of the standard of living, the level of technology, culture and civilization of any nation . To the English man, his house is his castle, which protects him from all comers; to a Nigerian, status in society is difficult to establish if one has no house. In many Nigerian cultural settings, a chieftaincy title cannot be bestowed on an individual who does not own a house within the locality. In modern society, housing constitutes between twelve and twenty per cent of household expenditures and is usually the major goal of family saving efforts."

In the realm of private and public investment, Ajanlekoko , (2019) writes, "the built environment (which includes shelter) represents man's most tangible material asset representing up to 20 to 30 per cent of fixed capital formation in areas with vigorous housing programmes and it is increasingly recognized as a profitable investment item, yielding a flow of income". Housing is a very expensive capital investment, which forms substantial proportion of every nation's Gross Fixed Capital Formation (GFCF). No nation in the world can boast of having economic capability of providing housing to all her citizens without other amenities suffering"(FMI, 2021).

For Gana, (2021), “a home may indeed be regarded as the greatest antidote for man against the vagaries of modern living”. It is the last bastion of peace and relaxation of mind and body, and therefore the sine qua non for sanity in a world of toil, sweat, tribulations and even happiness". (Nwosu, 2020) states that “it represents the most sanguine and restful primary nest for the nurturing of new generations of the human species. A good homestead is thus the precious life-blood of civilization itself”. Housing at different epoch, remains "strategic asset to man, irrespective of his social economic status, colour or creed. The passion and emotional attachment to housing in African cultural setting was underscored by the fact, that one is not considered a man until he owns a house" (Okupe, 2021).

Affordable housing, according to Oyediran, (2020) “has seemingly become impossible for an average Nigerian. While the real income of the people continues to drop, the cost of developing housing and purchase of same continue to be on the rise”. The problem of housing is enormous and complex, exhibiting apparent and marked regional differences. In most of our urban centers, the problem is not only restricted to quality, but also to quantity of available housing units and the environment. The scene is only slightly different in the rural areas where the problem is primarily that of quality of housing and inadequacy of infrastructure facilities like roads, drainage, water, power supply etc. Government is now concerned with the provision of houses for all citizens whether employed or not, whether in urban or rural setting (Lindblom, 2021).

Much has been written in the area of housing policy initiative, formulation and implementation but not much has been written about housing formulation and implementation during civilian regimes in Nigeria. Sweet and Maxwell, (2017) opines,

"the number of books, articles and anthologies on housing policy formulation suggests a growing awareness among public administration experts that the whole discipline of public administration is based on adequate mastery of the concept of policy". Policy is regarded as the "guidelines laid down in general or specific terms, to enable a company or other organizations reach the long-range targets set by the objectives. It is a rule of action for the rank and file to show them how they are expected to attain the desired results" (Coventry, 2018). In his own definition of policy, Nwachukwu, (2018) opines, "it is official guidelines or a set of guidelines for the intentions, goals and actions of an organization in accomplishing specific objectives". Policy is also a definite course of method of action selected from among alternatives, and in the light of given conditions to guide and determine present and future decisions" (Njoku, 2019).

For the purpose of a comparative study of Nigeria's housing policy, it may be necessary to have a brief look at the housing policy of developed countries like Britain and the United States of America. Britain, whose longest history of policy dates back to, according to Emiwole, (2020), "the early eighteenth century for reason of Public Health ; Housing credit markets; Planning Regulations; subsidy Payment: Encouragement and support for Voluntary non-profit association ; Urban renewal; Social development; Welfare Assistance and Provision of housing".

## **2.2 HOUSING POLICIES IN NIGERIA - PRE AND POST-INDEPENDENCE**

### **THE COLONIAL HOUSING POLICY IN NIGERIA**

Housing policy in Nigeria started with the coming of the Europeans into Nigeria. Until then, as earlier stated, “the provision of individual houses was the responsibility of individuals aided by the community”. Attempts to address the issue of housing in Nigeria predate our Independence in 1960. It dates back to that historical, but now controversial year of amalgamation, 1914 when the British Colonialist introduced Ordinance No. 9, which gave it power to acquire land compulsorily for public use (Onibukun, 2020). With the coming of the Colonial administration, there was need to provide cheap and decent accommodation for the expatriate workers (Ibrahim, 2019).

This was followed by Road and Township Ordinance No. 29 of 1917 which provided for different grades of urban settlements, established broad physical layout of town into categories and construction of staff housing at Government Reservation Areas (GRAs) in the State Capitals. Until then, the provision of individual housing was "the responsibility of individuals aided by the community. With the coming of the colonial administration, there was need to provide cheap and decent accommodation for the expatriate workers" (Anweh, 2021).

However, the need for housing policy in Nigeria became an important issue only when the country achieved Independence in 1960. According to Okupe, (2020) "the search for solution to this critical need of the people continued at Independence as reflected in the first National Development Plan spanning five years".

The policy of the British Colonial government was to provide housing at minimal rents to all colonial staff and their few indigenous support staff like clerks, prison officials,

police and Army. "This gave rise to clerks' quarters, Government Reservation Areas, Police Barracks and so on found in all Colonial towns in Nigeria ". The policy of government towards the masses moving from rural areas into the new administrative towns, ranged from benign neglect to the establishment of building lines and issuance of building plots at nominal cost to individual households. The new building lines became known as Sabongari in the Northern States or township areas. In addition to the township areas, there was usually an indigenous built-up areas annexed to the town. For many years, no visible effort was made to develop these areas, variously referred to as native town in Jos, Tudan Wada in Zaria and so on (Agbola, 2018).

As stated by Anweh, (2021), "due to lack of government's interest in these areas, the local chiefs assumed effective control of life and property in the areas. Thus, things were allowed to remain in the hands of the local chiefs, who made decisions in very much the same way as they had occurred before the advent of European colonization and domination". Continuing, Anweh opines, "the creation of Lagos Executive Development Board (LEDB) in 1928 and the establishment of the Nigerian Building Society (NSB) in 1956 to provide mortgage loans for prospective home owners also represent efforts at addressing the needs of Nigerians by the Colonial Administration ". The Colonial Housing Policy made efforts at different times to address the issue of housing.

### **2.3 THE POST-INDEPENDENCE HOUSING POLICY**

The need for housing policy in Nigeria became an important issue only when the country achieved independence in 1960. According to Okupe, (2020) "the search for solution to this critical need of the people continued at independence as reflected in the first National Development Plan spanning five years".

During this Plan Period, 1962-1968, "housing did not prominently feature in the plan. There was a short reference to housing in Lagos, where the Federal Government proposed to build 24,000 housing units in order to reduce over-crowding and prevent further deterioration". "The public sector produced less than 500 units per annum and only 38 percent of these for low income groups. In other words, direct building by governments and government agencies met only 1.06 percent of the country's needs" (Koenigsberger, 2020).

Prior to 1970, apart from staff housing scheme for senior civil servants, "public sector activity was limited to efforts of the Lagos Executive Redevelopment Board, the Nigerian Building Society and the Regional Housing Corporations . The scope of their work was highly restricted due to lack of finance and technical personnel" (Okupe, 2020). During the Second National Development Plan, 1970-1974, the Federal Government declared the intention to construct a total of 59,000 housing units. Effort during this time included capital allocation totaling N47 million by both the Federal and State Governments. For instance, the Federal Government set aside N 1.4 million for the expansion of the Nigerian Building Society; the granting of loan of about N6 million to Nigerian Building Society for onward ending; the allocation of N1.6 million for the construction of staff quarters and transit blocks of flat in Lagos; the allocation of about N 5 million for the construction of 59,000 housing units across the nation; and the allocation of about N33 million by the then State Governments for urban housing development (Onibukun, 2020).

The first serious attempt at highlighting the issue of housing to a national focus was marked by the "the formation of the National Council on Housing in 1971, consisting of all the Commissioners responsible for housing in the federation". According to Balogun, (2020), the year 1972 to 1974 also witnessed two other positive and progressive acts of government ' intervention. In 1972, the Federal Government acquired the shares of the Commonwealth Development Corporation in the Nigerian Building Society to make it a national limited liability company. More importantly, substantial amounts of money were granted to the society in two successive years to enlarge its activities. Haninaya, (2020) states that in May 1972, the Federal Staff Housing Board was established to take over from the African Housing Scheme of the Colonial era. The Board was empowered to grant to eligible members of the Public Service loans amounting to five times the applicant's annual salary or N20,000 whichever is less. Later this was increased to N40,000 with further request for increasing it to N100,000. Hananiya continued, "it was not until Decree No. 40 of 1973 establishing the federal Housing Authority that a comprehensive programme on housing was evolved. At this stage the National Housing programme was to be very dependent on the States' involvement and acceptance". As the programme paper said, "the programme has to originate, grow and be executed in the state. It is designed to meet the particular needs of each state and the Federal Housing Authority was to coordinate the housing activities going on in all the states of the Federation" (Achebe. 2019).

Federal Ministry of Economic Planning and Reconstruction (2019) states that the Federal Government accorded importance to housing policy. Government's efforts towards housing policy are evidenced in its Fiscal Outlay on housing during the Second

National Development Plan (2018). Commenting on Federal Government's efforts during this period, Ebie, (2019) observes that "Housing and Town Planning were still tied together in some votes, for example, in Lagos state, N1 million was earmarked for Housing and Town Planning.

## **2.4 THE NATURE OF HOUSING POLICY OF NIGERIA SECOND REPUBLIC (1979-1983)**

The change in Government in October, 1979 added impetus to housing development as all the political parties identified housing as one of the problems they would like to tackle when voted into power. Hananiya, (2018) observes that "the elections has come and gone and the tempo of housing has assumed an important place in the programme being announced by many governments - States and Federal ".

For example, Governor Lateef Jakande of Lagos State "mandated his State Housing Corporation to deliver 50,000 low-cost housing units annually. Bauchi State Government announced that it will spend N135 million for low cost housing in the next five years" (Kanu, 2018).

At the Federal level, the President, Alhaji Shehu Shagari was said to announce that "since housing construction was of top priority to his party - National Party of Nigeria, the Federal Government, which he now heads would make housing a top priority of his government" (Olu, 2018). Oyediran (2020) opines, "it is in furtherance of this goal, that the Minister of Housing and Environment promised the nation that the Federal

government planned to build 200,000 low-cost housing units annually with the support of the State government and private sector for the low-income earners".

Continuing in the assessment of the Second Republic Housing Programme, Egba, (2020) observes that "the critical point to note is that the good ambition of the Administration was frustrated in Benue State and the result was failure. Further investigation revealed that most of the housing units in the local governments were given to incompetent contractors because of pressure from the interest groups".

In Anambra State, according to Imo, (2021), "out of the six thousand housing units budgeted for construction within three years - 1980-83, only 1,300 housing units (21.6 %) were actually constructed". The critical perspective was that Alhaji Shehu Shagari's Housing Policy was progressive and mass oriented though it was poorly executed. The fundamental reason for the failure of Shehu Shagari Housing policy was the inability of his aides to implement the beautiful and mass-oriented Housing Policy he conceived".

Deducing from the above, housing as one of the cardinal policies of the Second Republic Administration failed simply because the project was given to incompetent contractors owing to pressure from interest groups, some influential legislators and other unforeseen forces.

## **2.5 ISSUES IN HOUSING POLICY**

Several studies have indicated that public housing provision involves policy formulation, institutional development, actual housing provision, allocation and management (Omole, 2020; Valenca, 2021; Sengupta and Tipple, 2019). This goes to suggest that challenges in public housing provision are related to policy formulation, institutional growth and

development as well as actual production and consumption of housing units and services. In fact, Sengupta and Tipple (2019) noted that the performance of public-sector housing in terms of total supply and quality, price and affordability of housing and services depends on these key areas and perhaps on other intervening factors.

Specifically, the actual production of housing units and associated services is one of the key objectives of public housing provision which aims at increasing decent and affordable housing stock within a country, state or locality. However, evidence from literature review clearly shows that public housing provision in many developing countries, including Nigeria, has not recorded any impressive result in matching housing production to housing demand, as there are huge housing supply deficits in many less developed countries (Olotuah, 2019). It is on this basis that this paper contends that the myriad of challenges militating against optimum performance of public housing in developing countries deserve proper investigation for appropriate solutions.

The burgeoning housing supply deficit in Nigerian which as at 2008 was put at over 15 million housing units (Onwuemenyi, 2018) for instance, has been blamed on low productivity in public-sector housing.

In view of the foregoing, many authors have argued that the challenge of low productivity in public housing in Nigeria is rooted in mismanagement of funds and politicization of housing program (Bana, 2021; Mustapha, 2020) while others are of the opinion that poor implementation of housing policies as well as lack of proper coordination of activities of public housing agencies were the key challenges of public housing in Nigeria (Ikejiofor, 2019; UN-HABITAT, 2020; Akinmoladun and Oluwoye, 2021; Ademiluyi and Raji, 2018). Another school of thought believes that low capacity of public housing agencies

in delivering their housing mandate is responsible for the failure of past public housing schemes to achieve set targets in Nigeria (Bana, 2021; Emerole, 2020). These views are no doubt very incisive as they attempt to identify the possible reasons why many past public housing schemes failed to achieve targeted number of housing units in the country. They are however, deficient in revealing why this challenge has persisted over the years. Specifically, the reasons why previous public housing programs were politicized and poorly implemented as well as the areas of weakness in organizational capacity in public housing agencies have not been addressed. These are vital areas of research deficiency which this study will attempt to address.

Interestingly, contemporary literature on organizational studies has shown that performance of organizations in product and service delivery depends on a number of factors. These include availability of requisite human resource, staff morale, work environment, equipment, technological know-how and funding (Lusthaus et al., 2021).

Others are leadership style, role assignment to staff, information management strategies, process management and monitoring strategies, innovation, communication channel, staff evaluation and reward system, capacity building process and others (Wachira, 2001).

Therefore, an investigation into these vital components of organizational performance can help to uncover the actual areas of deficiencies in organizational capacity in public housing agencies in Nigeria.

Apart from the failure of public-sector housing to provide planned number of housing units, unimpressive result has also been recorded in the provision of quality housing in Nigeria. Although each of the 1988, 1991, 2002 and 2006 National Housing Policies set outs to provide Nigerians access to qualitative and satisfactory housing at affordable cost;

several studies have succinctly shown that these policies and the housing schemes derived from them achieved minimal success in this area (Awotona, 2018; Ukoha and Beamish, 2019; Fatoye and Odusami, 2019; Olatubara and Fatoye, 2018; Jiboye, 2019; Ibem and Amole, 2017). Each of the above cited works identified lack of consideration of end users' socio-economic and cultural attributes and personal preferences as being responsible for unsatisfactory public housing as perceived by the users. Moreover, there is the general notion that this development is due to lack of proper monitoring and evaluation of housing policies and programs in Nigeria (Federal Republic of Nigeria, 1991).

Evidence in existing literature suggests that one of the key criteria for enhancing product and service quality is a good information infrastructure that allows for feedback loops, performance appraisals and benchmarking against self and others (Kelleche, 2019). The reality is that there is dearth of good information infrastructure that allows for feedback mechanism in public housing delivery system in Nigeria (Federal Republic of Nigeria, 1991). This is probably why there appear to be no adequate and reliable information base for effective housing policy formulation, program design and implementation strategies in the country, which is inimical to effective and efficient public housing delivery system. It is very obvious from the review of literature that the very reason why this problem exists in the country has not been properly investigated.

With respect to affordable housing provision, the UN-HABITAT (2020) report on Nigeria noted that past public housing policies and programs in the country were aimed at enabling low-income earners gain access to decent housing at affordable cost. According to Aribigbola (2018), the 2002 New National Housing and Urban Development Policy (NNHUDP) for instance, asserted that no Nigerian is

expected it to pay more than 20% of his or her monthly income on housing. But to the contrary prior studies (Onibokun, 2019; Awotona, 2000; Mba 2018; Olotuah and Bobadoye. 2019; Ibem, 2019) have shown that the targeted population of many past public housing schemes in Nigeria did not benefit from such scheme. This was due to high cost of housing units provided. Consequently, several authors have contended that the constraints in accessing housing inputs (land, building materials and finance) as well as cost of providing infrastructure were partly responsible for the hike in the cost of public housing beyond the reach of an average Nigerian (Ikejiofor, 2019; HABITAT, 2020; Aribigbola, 2018). In addition, it can also be deduced from literature that poor management of those housing schemes and the use of inappropriate design standards contributed to high cost of public housing in the last few decades in Nigeria (Onibokun, 2018; Mustapha, 2019; Ademiluyi, 2020) .

From the foregoing, it is evident that there are challenges in the provision of affordable housing that is quantitative and qualitative adequate by public sector in Nigeria since independence in 1960. Some of these challenges are contextual and are primarily due to the external social, economic and political environment in which public housing schemes were conceived, designed and implemented while others are organizational challenges within public housing agencies. The current study is primarily concerned with the provision of possible solutions to these challenges especially with regard to the management, allocation and right disbursement of housing units, with an automated system.

## CHAPTER THREE

### SYSTEM ANALYSIS AND DESIGN

#### 3.1 System Analysis

System investigation and analysis deal with considering the full study of the existing system by investigating the system to expose the strength and weakness of the existing system. It also allows the problem of existing system to be identified and eliminated from the proposed system and enables the good method to be incorporated if possible SWOT (strength, weakness, opportunity, and threat) analysis is used as a tool in this chapter.

#### 3.2 Methods of data collection

For achieving the objectives of this study and to conduct the investigation, data has been collected from both primary and secondary sources:

**Primary Data:** Data collection methods for primary data include: Structured and semi-structured questionnaires, mailed questionnaires, structured and semi-structured interviews (personal and telephone interviews), observation and focus discussions. Questionnaires are the most commonly used methods when respondents can be reached and are willing to co-operate. These methods can reach a large number of subjects who are able to read and write independently. The study used primary data, which was captured through a prearranged questionnaire. For this study Primary data was collected from selected members of the staff through oral interview on daily operations.

**Secondary Data:** Secondary data was collected through Books, Journals. Research papers, Websites, Articles and Newspapers.

### **3.2.1 Data Analysis Technique**

The analytical tool used in the analysis is simple percentage. Percentage analysis is the method used to represent raw streams of data as a percentage (a part in 100-percent) for better understanding of collected data.

### **3.3 Analysis of the Existing System**

The existing system of house allocation is highly manual, time consuming and stressful. Because the system is manual, it involves a lot of paper work which in itself is cumbersome and prone to loss or damage. Another thing to note is the margin for error which is high because it is based solely on human abilities. Allocation of rooms is much more difficult with the current system, as it also encourages a lot of time wastage that is not to the benefit of those in dire need of these facilities.

#### **3.3.1 Drawbacks of Existing System**

- More man power.
- Consumes large volume of paper work.
- Needs manual calculations.
- Inconsistency in data entry, room for errors, miscopying information.
- Large ongoing staff training cost.
- System is dependent on good individuals.
- Time consuming and costly to produce reports.
- Lack of security.

To avoid all these limitations and make the working more accurate the system need to be computerized.

### **3.4 Analysis of the Proposed System ·**

The main objective of this project is to present a system which can effectively match available temporary or permanent housing alternatives to displaced families, social, economic and psychological needs with the minimum required public expenditure. It should incorporate sufficient strategic planning so as to reduce the response time and the system must improve on the disadvantage of current temporary housing practice and offer comprehensive decision support to the emergency management agencies.

The system will have a big contribution in the disaster management field: it transforms the one-size-fits-all housing program to a need-tailored approach which considers every displaced family's needs. Furthermore, the system can be applied in many other contexts where the problem aims to match the individual demands to various supplies in different locations. The algorithm developed for the multi-objective optimization is of great value in optimizing similar assignment problems. As a result, the systematic approach and optimization tool makes this study a contribution to Industrial and Systems Engineering as well. The aim of proposed system is to develop a system or improved facilities. The proposed system can overcome all the limitations of the existing system. The existing system has several disadvantages and many more difficulties to work well. The proposed system tries to eliminate or reduce these difficulties up to some extent. The proposed system will help the user to reduce the workload and mental conflict.

### **3.4.1 Advantages of Proposed System**

The system is very simple in design and to implement. The system requires very few system resources and the system will work with almost all configurations. It has got the following features and advantages;

- Minimize manual data entry.
- Minimum time needed for the various processing.
- Greater efficiency.
- Better service.
- User friendliness and interactive.

### **3.5 Input and Output Designs**

The proposed system is built with the user put into consideration. The flow of data is in such a way that the system is very easy to use and the system requirements are met.

#### **3.5.1 Input Design**

The input design is the link between the information system and the user. It comprises the developing specification and procedures for data preparation and those steps that are necessary to put transaction data into a usable form for processing can be achieved by inspecting the computer to read data from a written or printed document or it can occur by having people keying the data directly into the system. The design of input focuses on controlling the amount of input required, controlling the errors, avoiding delay, avoiding extra steps and keeping the process simple. The data supplied to the system includes

- User Login
- Client Registration

- Client Reservation
- House Allocation

**NEW CLIENT ENTRY**

Surname:  Male:

Firstname:  Female:

Registration number:

**Personal Info**

Age:  Address:

Contact No:  Next of kin:

Marital status:  Occupation:

**Figure 3.1 Client's Registration Form**

Login

User login

Username:

Password:

Login Exit

**Figure 3.2 The Login Form**

### **3.5. 2 Output Design**

A quality output is one, which meets the requirements of the end user and presents the information clearly. In any system results of processing are communicated to the user and to other system through outputs. In output design it is determined how the information is to be displaced for immediate need and also the hard copy output. It is the most important and direct source information to the user. Efficient and intelligent output design improves the system's relationship to help user decision-making. Designing computer output should proceed in an organized, well thought out manner: the right output must be developed while ensuring that each output element is designed so that people will find the system easy to use and efficient. When analyzing design computer output, they should identify the specific output that is needed to meet the requirements.

USERNAME	FULLNAME	ACTIVITY LOG	LOGIN TIME	LOGOUT TIME
ADMIN	MUSA	LOGIN SUCCESSFUL	6/14/2018 07:00AM	6/14/2018 12:58PM
ADMIN	MUSA	CLIENT REGISTERED	12/25/2017 07:00AM	12/25/2017 07:00PM
ADMIN	MUSA	PRINTED SUMMARY SHEET	11/14/2017 07:00AM	11/15/2017 05:00AM

**Figure 3.3 Activity Log Report**

### 3.6 Program Flowchart

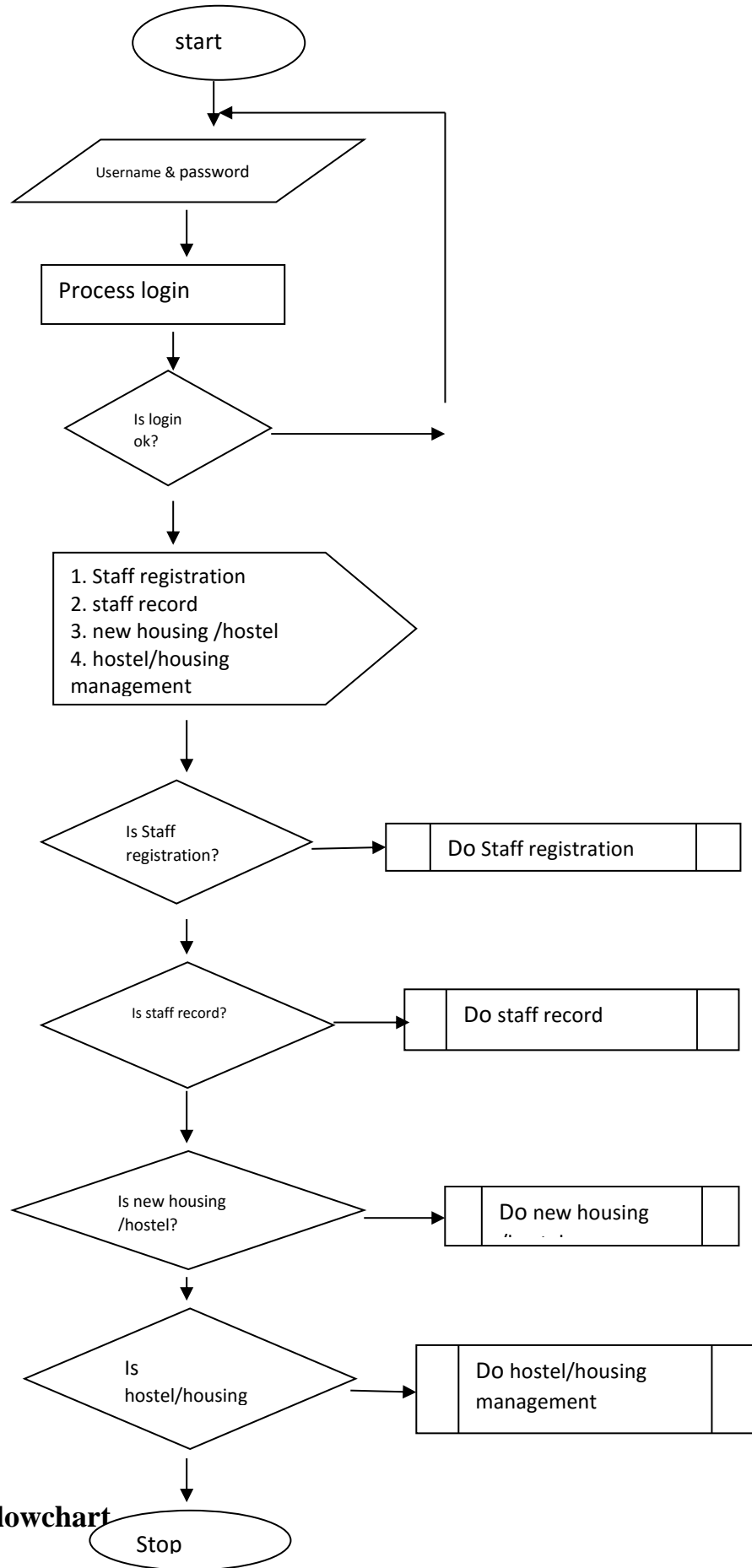


Figure 3.5 Program Flowchart

### 3.7 Database Design

The data in the system has to be stored and retrieved from the database. Designing the database is part of the system design. Data elements and data structures to be stored have been identified at the analysis phase. They are structured and put together to design the data storage and retrieval system. A database is a collection of interrelated data stored with minimum redundancy to serve many users quickly and efficiently. The general objective of the Hotel Management Information System is to make record access quick, easy, inexpensive and flexible to the user. Relationships are established between the data items, and unnecessary data items are removed. Normalization is done to get an internal consistency of data and to have minimum redundancy and maximum stability. This ensures minimizing data storage required, minimizing chances of data inconsistencies and optimizing for updates, The MS Access database has been chosen for developing the relevant databases. The following are the tables that are involved in the proposed system:

**Table 3.1 Login Table**

Field Name	Data Type	Length
User name	Text	12
Password	Varchar	8

**Table 3.2 Registration Table**

Field Name	Data Type	Length
Surname	Text	10
First name	Varchar	20
Staff ID Number	Varchar	11
level	Varchar	12
sex	Varchar	20

**Table 3.3 Admin Table**

FIELD	TYPE	SIZE
First name	Text	100
Last name	Text	100
Gender	Text	7
Username	Text	20
Sex	Text	300

**Table 3.4 User Registration Table**

FIELD	TYPE	SIZE
Occupation	Text	100
Gender	Text	100
Id nuunber	Text	100
Username	Text	50
Room Number	Integer	10

**Table 3.5 Allocation Table**

FIELD	SIZE	TYPE
First name	100	Text
Last name	100	Text
Gender	6	Text
Sponsor	200	Text
Level	20	Date
House type	20	Date
Id number	20	Int
location	200	Text
Username	100	Text
Authentication password	20	Text
Contact address	200	Text

**Table 3.6 Make Appointment File**

FIELD	TYPE	SIZE
Username	Text	100
Appointment/message	Text	200
Schedule date	Date	50
Place to go/visit	Text	50
Time to visit	Time	50

## **CHAPTER FOUR**

### **SYSTEM DEVELOPMENT AND IMPLEMENTATION**

#### **4.1 Software Requirements**

For the effective implementation of the new system, the following software has to be installed on the computer system.

- PHP
- Windows 7 Operating System or later
- Sql

#### **4.2 Hardware Requirements**

For running the project, the following minimum hardware is required.

- Pentium VI and above
- 80 Gigabyte of Hard Drive
- 2 GB Ram and above

#### **4.3 Choice of Programming Language**

Php was used to develop the new system. This is because of its ease of use and flexibility which provides the programmer with hints and a good graphical user interface. Php also allows for object-oriented programming. There are various tools in the program environment that makes coding and navigation easy. These and many more makes Php the ideal programming language.

#### **4.4 System Documentation**

The system was designed to be user friendly. It can be operated by anyone regardless of their literacy level.

#### **4.4.1 User Documentation**

The user needs to register before he/she can have access to the program. After the registration, the user can login to the platform via the login account he/she has used to register. Other registration details can be filled up after the user must have login to the site.

#### **4.5 Education and User Training**

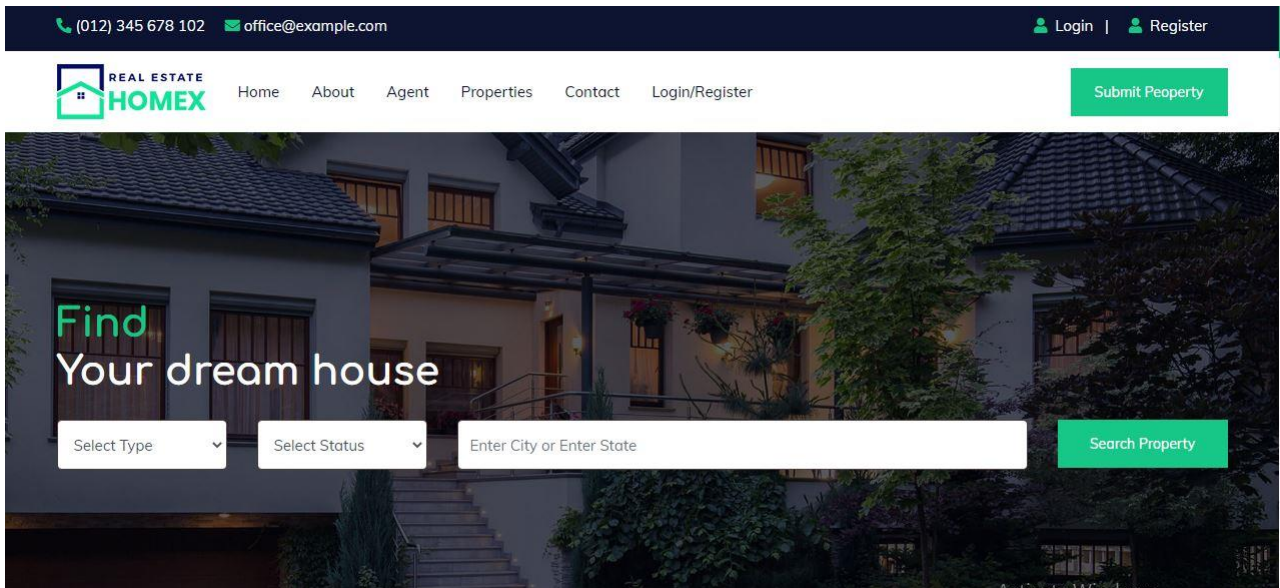
**1. User's Training:** The users should be taught how to enter data into the system to retrieve the output and know mode of operation. The training session needs to cover how and what a simple error message on the screen means and how it can be handled successfully coupled with the maintenance of the system.

**2. System Conversion:** This is the process of switching from one system to the other (i.e. manual to automation). Prior to conversion, users and computer operation personnel might bear been trained in their duties on the application software of the news system made available for use.

#### **4.6 Execution of Testing**

##### **4.6.1 The Home Page**

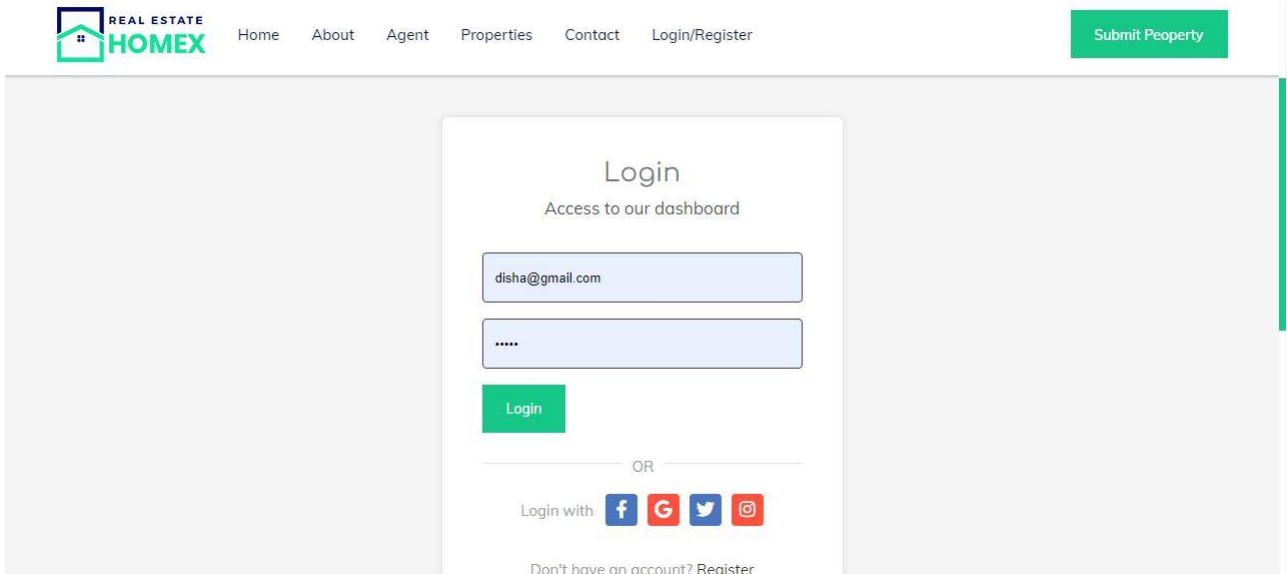
The Home page of the House Allocating management system basically consists of five modules which include; the front desk/reception module, Room Allocation module, Module, Finance and account module and Administration and General Services. It also includes the “Log out” option and an i-frame which posts back all clicked options.



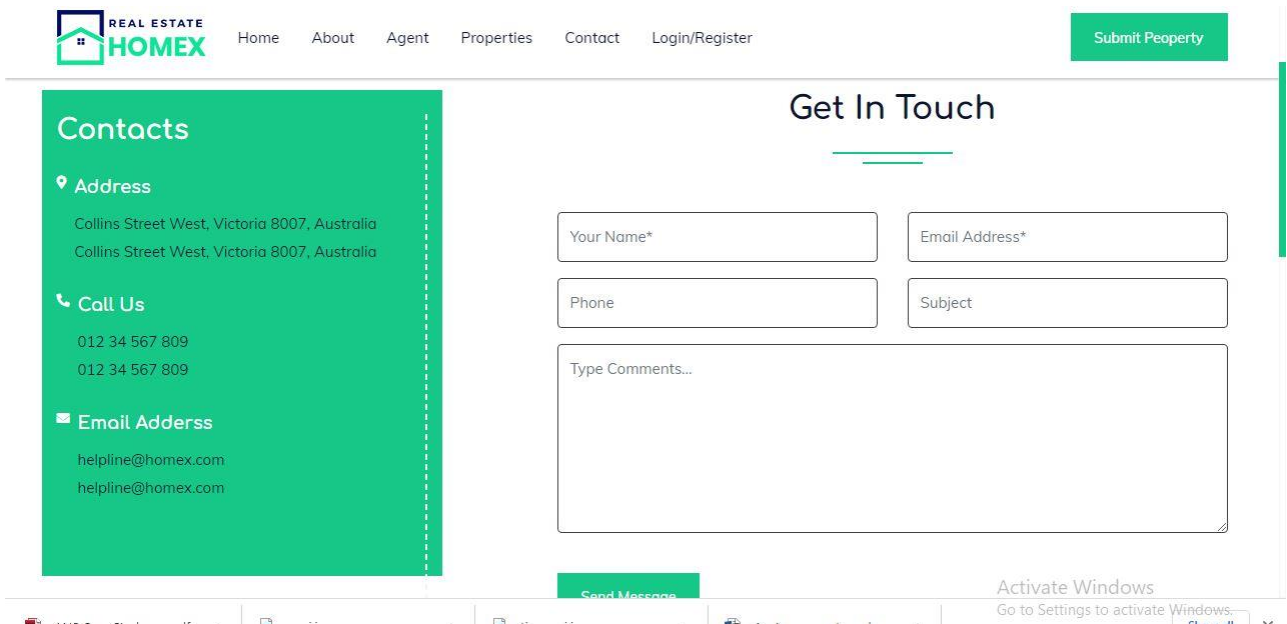
**Figure 4.1 Home page**

#### **4.6.2 The “Log in” Page**

The log in page for the HMIS comprises of a dialog box which allows the user to input their User name and password. It also includes a log in button and a retrieve password for users who forget their password. It was developed using session (user id) to save the user name and password in order to save the user name and password for future references or uses. The input will be validated when user keys in a value for either of the two required values and when both are deemed correct or validated it advances to the menu page of the application else a message stating that the username and/or password will be displayed.



**Figure 4.2 User Login**



**Figure 4.3 Contact Us Page**

# EMI Calculator

Price	Amount
Enter Amount	3,000
Enter Month	4
Enter Interest Rate	10
Total Interest	0.3
Total Amount	3.3

**Figure 4.4 Installment payment calculator**

# Register

Access to our dashboard

Your Name\*

Your Email\*

Your Phone\*

Your Password\*

User  Agent  Builder

User Image

**Figure 4.5 User Registration**

## CHAPTER FIVE

### SUMMARY, CONCLUSION & RECOMMENDATIONS

#### 5.1 Summary

The overriding purpose of this study was to automate the hitherto manual system of house allocation especially as it relates to public housing or real estate management. To accomplish that goal it became necessary to reach some prerequisite goals. Determining what general housing means and how that is gradually been connected with the field of technology which assumed a high degree of importance during the literature review conducted for this project. Related to that effort, it became necessary to reach an understanding about the nature of technological literacy. The literature review also provided insights into the cumbersome and often times error strewn manual method of house allocation. Housing Allocation Management System is a user-friendly computer-based system for managing real estate or low-cost houses. It has been designed to automate, manage and look after the overall processing of records of clients. It is capable of managing Enquiry details, Allocation, Payment Details etc. The developed system provides solution to manual house allocation problems and also provides information such as house types, house size etc. The software offers stability, cost-effectiveness and usability. It provides the most flexible and adaptable standards management system solutions for hostel.

## **5.2 Conclusion**

The introduction of an electronic system of registration focuses on saving cost, improving the efficiency of the processes involved in both registration and management of real estate and makes the overall procedure stress free. The housing allocation management system is aimed at streamlining the registration and management process of houses for both clients and the administrators in charge of the procedures involved. It is to eliminate unnecessary administrative tasks and reduce or even avoid paper work. This system will help improve productivity and reliability of the registration and management process in a more efficient manner. Identification of the drawbacks of the existing system leads to the designing of computerized system that will be compatible to the existing system with the system which is more user-friendly and more GUI oriented.

## **5.2 Recommendations**

To conclude the description of the project, which has been developed using Php and Sql is based on the requirement specification of the user and the analysis of the existing system, with flexibility for future enhancement. HOUSING ALLOCATION MANAGEMENT SYSTEM is very useful for house allotment and distribution. This research work hereby recommends that the HOUSING ALLOCATION MANAGEMENT SYSTEM be adopted and implemented into any Housing Real Estate Management Firm.

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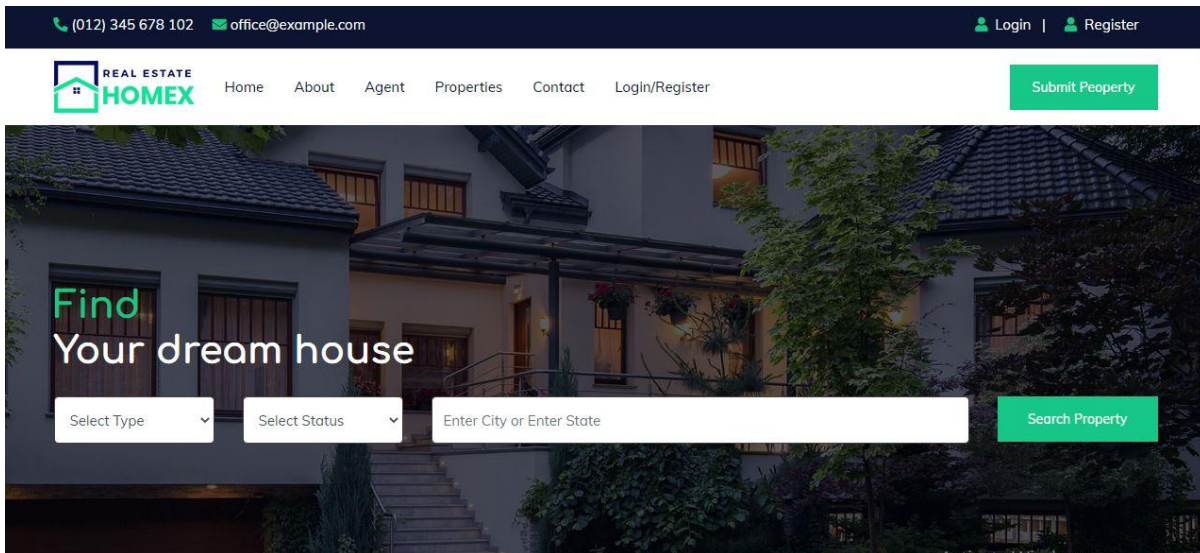
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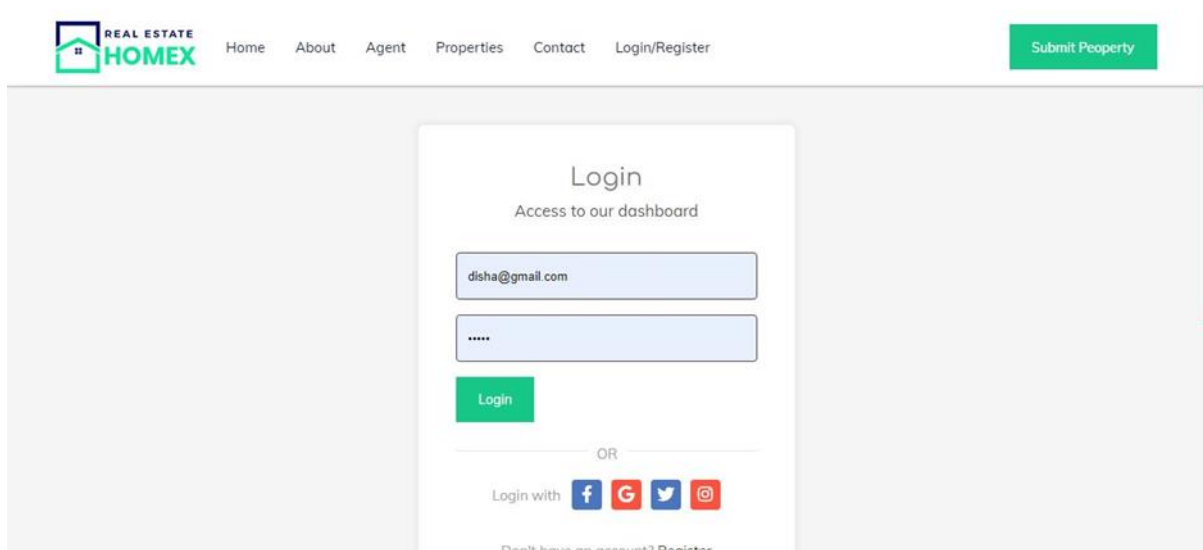
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## **APPENDIX A**

### **User Documentation**



## Home page



## User Login

## Contacts

### Address

Collins Street West, Victoria 8007, Australia  
Collins Street West, Victoria 8007, Australia

### Call Us

012 34 567 809  
012 34 567 809

### Email Address

helpline@homex.com  
helpline@homex.com

## Get In Touch

Your Name\*

Email Address\*

Phone

Subject

Type Comments...

Send Message

Activate Windows  
Go to Settings to activate Windows.

## House Allocation Interface

# EMI Calculator

Price	Amount
Enter Amount	3,000
Enter Month	4
Enter Interest Rate	10
Total Interest	0.3
Total Amount	3.3

## Installment Calculator

# Register

Access to our dashboard

User  Agent  Builder

User Image

## User Registration

## APPENDIX B

```
<!DOCTYPE html>
    <html lang="en">

    <head>
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

    <!-- Meta Tags -->
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
        <link rel="shortcut icon" href="images/favicon.ico">

    <!-- Fonts
    =====-->
    <link
    href="https://fonts.googleapis.com/css?family=Muli:400,400i,500,600,700&amp;display=swap
    " rel="stylesheet">
    <link href="https://fonts.googleapis.com/css?family=Comfortaa:400,700" rel="stylesheet">

    <!-- Css Link
    =====-->
    <link rel="stylesheet" type="text/css" href="css/bootstrap.min.css">
    <link rel="stylesheet" type="text/css" href="css/bootstrap-slider.css">
    <link rel="stylesheet" type="text/css" href="css/jquery-ui.css">
    <link rel="stylesheet" type="text/css" href="css/layerslider.css">
    <link rel="stylesheet" type="text/css" href="css/color.css" id="color-change">
    <link rel="stylesheet" type="text/css" href="css/owl.carousel.min.css">
    <link rel="stylesheet" type="text/css" href="css/font-awesome.min.css">
    <link rel="stylesheet" type="text/css" href="fonts/flaticon/flaticon.css">
    <link rel="stylesheet" type="text/css" href="css/style.css">

    <!-- Title
    =====-->
    <title>Homex - Real Estate Template</title>
    </head>
    <body>

    <!-- Page Loader -->
    <!--<div class="page-loader position-fixed z-index-9999 w-100 bg-white vh-100">
    <div class="d-flex justify-content-center y-middle position-relative">
```









```

<!-- Recent Properties -->
<div class="full-row">
<div class="container">
<div class="row">
<div class="col-md-12">
<h2 class="text-secondary double-down-line text-center mb-4">Recent Property</h2>
</div>
<!-- <div class="col-md-6">
<ul class="nav property-btn float-right" id="pills-tab" role="tablist">
<li class="nav-item"> <a class="nav-link py-3 active" id="pills-home-tab" data-toggle="pill"
href="#pills-home" role="tab" aria-controls="pills-home" aria-selected="true">New</a> </li>
<li class="nav-item"> <a class="nav-link py-3" id="pills-profile-tab" data-toggle="pill"
href="#pills-profile" role="tab" aria-controls="pills-profile" aria-selected="false">Featured</a>
</li>
<li class="nav-item"> <a class="nav-link py-3" id="pills-contact-tab2" data-toggle="pill"
href="#pills-contact" role="tab" aria-controls="pills-contact" aria-selected="false">Top
Sale</a> </li>
<li class="nav-item"> <a class="nav-link py-3" id="pills-contact-tab3" data-toggle="pill"
href="#pills-resturant" role="tab" aria-controls="pills-contact" aria-selected="false">Best
Sale</a> </li>
</ul>
</div> --->
<div class="col-md-12">
<div class="tab-content mt-4" id="pills-tabContent">
<div class="tab-pane fade show active" id="pills-home" role="tabpanel" aria-labelledby="pills-
home">
<div class="row">

<div class="col-md-6 col-lg-4">
<div class="featured-thumb hover-zoomer mb-4">
<div class="overlay-black overflow-hidden position-relative"> 
<div class="featured bg-primary text-white">New</div>
<div class="sale bg-secondary text-white text-capitalize">For sale</div>
<div class="price text-primary"><b>$4550467 </b><span class="text-white">1950
Sqft</span></div>
</div>
<div class="featured-thumb-data shadow-one">
<div class="p-3">
<h5 class="text-secondary hover-text-primary mb-2 text-capitalize"><a
href="propertydetail.php?pid=22">Shanti Apartment</a></h5>

```

```
<span class="location text-capitalize"><i class="fas fa-map-marker-alt text-primary"></i> main
market near swami school</span> </div>
<div class="bg-gray quantity px-4 pt-4">
<ul>
<li><span>1950</span> Sqft</li>
<li><span>3</span> Beds</li>
<li><span>2</span> Baths</li>
<li><span>1</span> Kitchen</li>
<li><span>1</span> Balcony</li>

</ul>
</div>
<div class="p-4 d-inline-block w-100">
<div class="float-left text-capitalize"><i class="fas fa-user text-primary mr-1"></i>By :
demo</div>
<div class="float-right"><i class="far fa-calendar-alt text-primary mr-1"></i> 6 Months
Ago</div>
</div>

</div>

</div>
</div>
```

