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MINI-PROJECT REPORT

ON

"Real Estate Portal"

Submitted in partial fulfillment of the requirements for the 6TH semester File Structure Lab

Bachelor of Engineering

IN

INFORMATION SCIENCE AND ENGINEERING

For the Academic year
2017-2018

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CERTIFICATE

Certified that the project work entitled ***"Real Estate Portal"*** *is a bonafide work carried out by* ***Sreejeeth Ramprasad, Sayantika Banik*** *and* ***Mohammed Shariq Nawaz*** *bearing USN* **1MV15IS050**, ***1MV15IS067*** *and* ***1MV15IS118*** *respectively, students of* ***Sir M. Visvesvaraya Institute of Technology, Bengaluru*** *in partial fulfillment for the award of* ***6th Semester Bachelor of Engineering*** *in* ***Information Science and Engineering*** *of the* ***Visvesvaraya Technological University****, Belgaum during the year 2017-2018. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated and the project report has been approved as it satisfies the academic requirements in respect of Mini Project work prescribed for the said Degree.*

Signatures:

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External Viva

Name of the Examiners	**Signature with date**
1. _____	_____
2. _____	_____

ACKNOWLEDGEMENT

The satisfaction and euphoria that accompany the successful completion of any task would be incomplete without the mention of people who made it possible, whose constant guidance and encouragement crowned my effort with success.

We are also extremely grateful to our Project Coordinator, **Mrs. Suguna MK** Associate Professors, Department of Information Science and Engineering, Sir MVIT, Bengaluru, for their constant support and advice throughout the course of preparation of this mini project.

We are greatly thankful to **Dr. P. Vijayakarthick**, Prof and HOD, Department of Information Science and Engineering, Sir MVIT, Bengaluru, for his able guidance, regular source of encouragement and assistance throughout this project.

We gratefully acknowledge the help lent out to us by all faculty members of the Department of Information Science and Engineering, Sir MVIT, Bengaluru, at all difficult times. We would also take this opportunity to thank our college management for the facilities provided during the project. Furthermore, we acknowledge the support and feedback of my parents and friends.

Mohammed Shariq Nawaz
Sayantika Banik
Sreejeeth Ramprasad

ABSTRACT

The aim of the proposed mini project is to make the search for apartments easier. Based on the requested search parameters given by the user. Each of the apartments will be stored as a file locally. Each of the files will have different fields such as cost per sq. ft., number of bedrooms, location, budget, etc. The technique used here for searching different apartments according to the user's needs is indexing.

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INTRODUCTION

CHAPTER 1
INTRODUCTION

BRIEF DESCRIPTION OF PROJECT

The proposed mini project aims to make the searching for apartments easier. The searching is done based on the requested search parameters given by the user. The apartments or the estates will be stored in a file locally. This file will have different records for each of the estate. These records will have different fields such as cost per sq. ft., number of bedrooms, location, budget, etc. for each of the estates. The technique used here for searching different apartments according to the user's needs is indexing.

The type of indexing used in this proposed mini project is called as primary indexing. The field which is used as the primary field is the name of the estate or the apartment. The indexed estates records are stored in a separate index file in which the contents are sorted. This makes the searching easier and uses lesser number of seeks.

The user will be able to make changes to these files which are stored locally. Also the user can perform operations such as inserting a new estate, searching for a new estate, visualizing the estates and get a graphical representation for that particular visualization, etc.

1.1 PURPOSE

The main purpose of this project to make searching for estate properties easier and efficient. The aim is to provide an efficient and beneficial application that helps in reducing the time taken to search for properties and also for the user to visualize data in the form of various graphical representations. The methods which has been utilized in the proposed mini project is indexing.

1.2 SCOPE

The driving force of this project is to create a portal where users can search for properties from the wide range of estates to yield better results. This real-estate portal will help the user to feel satisfactory as they will have a larger pool of apartments or estates to choose from. This proposed mini project can be used to analyze the data and improve the quality of the apartments for the tenants. Data visualization will also help in users understanding the significance of the data from the visual context and in turn help them in choosing better properties for themselves. The implementation of this application in urban and rural places will result in accurate results of the required estate and less time consumption.

1.3 EXISTING SYSTEM

The existing system which is present leads to a lot of time wastage. The user must sometimes manually visit the real-estate offices present in the locality to know about the available properties present. The user also must bare the commission charges proposed by the broker who acts as the middle man between the user and the estate owner.

1.4 PROPOSED SYSTEM

The proposed real estate portal has the following potential benefits:

- It provides an **additional channel** to look up for a property.
- The portal offers **reduced marketing cost** almost close to none**.**
- It provides **greater transparency** – the property details are accessible in an open environment.
- It provides a **level of trust between you and the estate owner** as there is no involvement of the middle man.
- It offers a **convenient way to compare prices and products** from different locations.

1.5 SUMMARY

In this chapter, we have proposed a portal which uses methods such as indexing. Information about the existing system and the proposed system was provided with the advantages it provides. Also, the scope of this project is made known here. Our approach is particularly appropriate for yielding appropriate searches according the users parameters and reduce the time consumption.

Chapter 2

SOFTWARE REQUIREMENT SPECIFICATIONS

CHAPTER 2
SOFTWARE REQUIREMENT SPECIFICATION

2.1 INTRODUCTION

An SRS or a software requirement specification, for any software system, is a complete description of behavior of a system to be developed. It may include a set of use cases that describe interactions the users will have with the software. It should include both the user requirements of the system and a detailed specifications of the system requirements. In addition it also contains non-functional requirements. Non-functional requirements impose constraints on the design or implementation such as performance engineering requirements, quality standards, or design constraints. The SRS document enlists all necessary requirements that are required for the project development.

2.2 OPERATING ENVIRONMENT

The operating environment specifies the environment in which the application is run on.

2.2.1 HARDWARE REQUIREMENTS

Processor:	Intel i5 onwards
Memory:	2.00 GB RAM
Hard Disk Space:	2GB+
Keyboard:	Standard Windows Keyboard

2.2.2 SOFTWARE REQUIREMENTS

Operating System:	Windows 7 & above
Language:	Python 3.x or Python 2.7
IDE:	Sublime Text

2.3 FUNCTIONAL REQUIREMENTS

The developed system is expected to provide the following functionalities:

1) **Insertion** - This functionality helps in inserting details which are related to the apartments/estates. These details include the apartment's name, size, price, owner's information, condition, etc. Each of the details are explicitly added which are stored in a file

2) **Searching** - This functionality helps the user in searching for an apartment according to the field entered. The search can be done according to different parameters entered by the user.

3) **Modifying** - This functionality helps in making changes to the added apartments. The user can change the apartment details such as name, price, condition, size, owner's name, etc.

4) **Visualizing** – This functionality help in visualizing the data based on different parameters which can be selected by the user. This is done in the form of graphical representations for better understanding.

5) **Deletion** - This functionality helps in deleting the estate from the input file thereby removing all the unnecessary data from the portal.

2.4 NON-FUNCTIONAL REQUIREMENTS

Non-Functional requirements are not directly concerned with the specific functions delivered by the system. These are constraints on the service or functions offered by the system. They include timing constraints, constraints on the developing process and standards. They may relate to emergent system properties such as reliability, response time and store occupancy. Non-Functional requirements often applied to the system. They do not usually just apply to an individual system features and services.

The following list of non-functional requirements is expected from the system:

- **Availability:** The portal can be available in all the systems who have Python installed.

- **Reliability:** This software attempts to insure appropriate content but assume no responsibility for external manipulations.

- **Performance:** CPU time of the proposed software varies from 4seconds to 6seconds.

- **Modifiability:** Another key factor that the system should consider is modifiability. As the system might have to be integrated with other systems and mounted on other platforms in future, it should be modifiable.

- **Accuracy:** One of the significant motives of the system is to produce accurate results, every time it is run. The system aims at accuracy of 70% and above.

- **Response time:** The system should respond in the least amount of time possible.

- **Usability:** The application developed should be easy to use and user friendly. User must be able to understand and use the components of application without any ambiguities.

- **Robust:** The application should be able to produce correct output for all kinds of inputs given by the user which may have different images of different noises and intensities.

2.5 ADVANTAGES

- Provides an easy to understand portal.
- Increases the efficiency for searching the right estate for the use.
- Reduces the time required to find the right estate according the user's needs.

2.6 SUMMARY

This chapter contains the essential functional and non-functional requirements the portal should adhere to the overall general perspective of the portal's behavior, the hardware, software and interfaces that are being used. It helps in the generation of the system architecture and the high level design with more attention to details. It can be implemented on any system which meets the requirements as mentioned above.

Chapter 3
IMPLEMENTATION

CHAPTER 3
IMPLEMENTATION

3.1 Implementation of Indexing

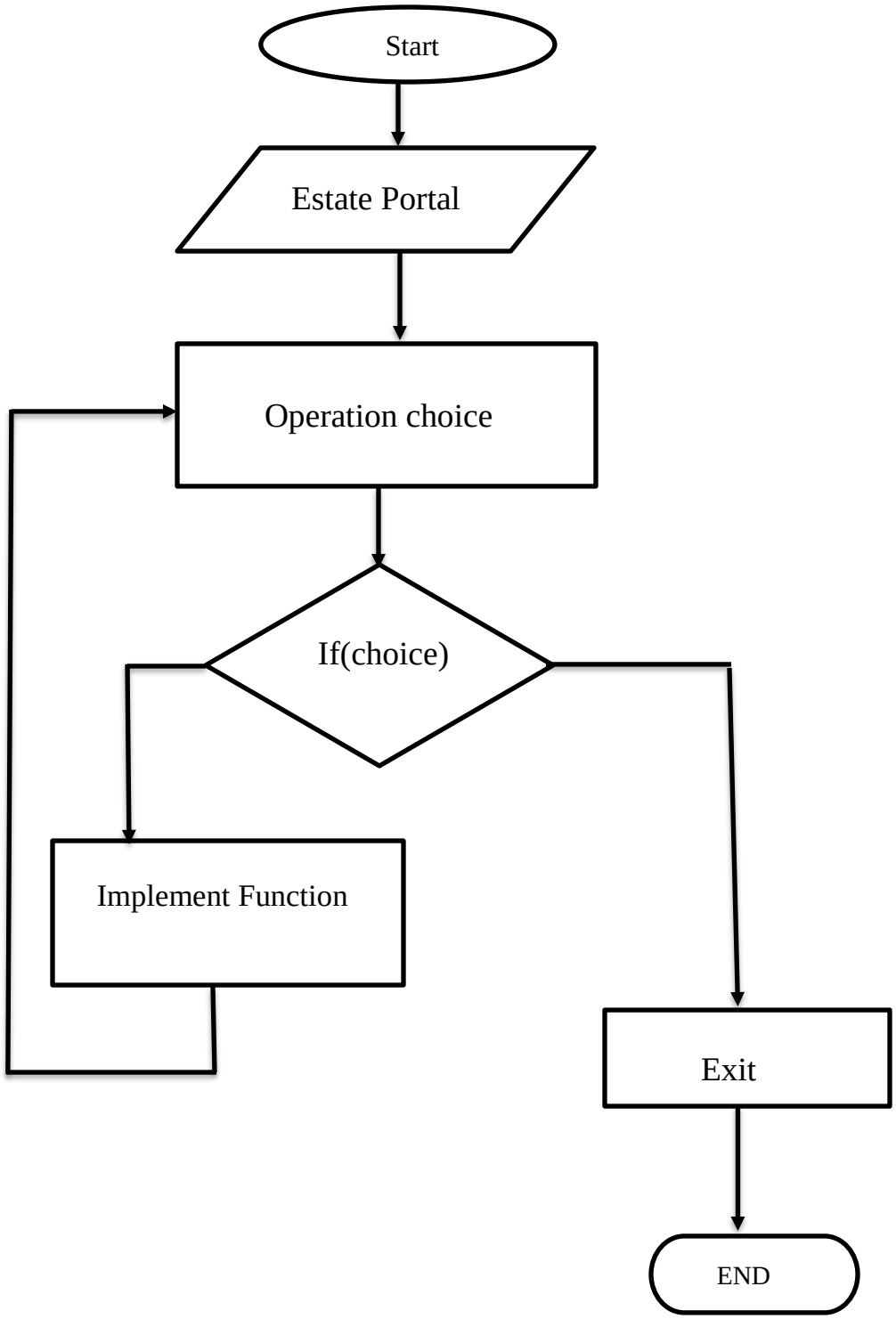
Implementation of any software is always preceded by important decisions regarding selection of platform, the language used, etc. These decisions are often influenced by several factors such as real environment in which the system works, the speed that is required, the security concerns, other implementation specific details etc.

The proposed mini project has indexing as it's methodology which has been implemented. In the proposed mini project, the name of the estate is a search key and pointer depict the address of the corresponding block in the main file. As soon as the Estate details are entered in to the portal using the insertion functionality, the name of the estate is selected as the primary index parameter and makes an entry into the index file. The search functionality when called gets the estate details form the sorted index file searching for the corresponding name of the estate to be found.

The various advantages of using indexing are: -

- **Easy Update**: Whenever new files or records are created, they can be easily added to the index. This makes it easy to keep your records up-to-date always.
- **Uniqueness**: Indexing is the best tool to maintain uniqueness of records in a database. Each time a new record is added, it is done in a way to make sure there are no duplicates. Having unique records improves search time.
- **Easier Categorization**: Records indexing makes it easier to group records by categories. Grouping documents into two or more categories improves search time.
- **Search Time:** Fetch time for records is dramatically reduced.

3.2 Workflow


Start
Estate Portal
Operation choice
If(choice)
Implement Function
Exit
END

3.3 Data analytics and Visualisation

Data analytics and visualisation can create a huge impact in the business of real estate. The project has a miniature version of the same. We have implemented analytics with the raw data sets available on Kaggle and Gov.in. Though the project can be scaled to great heights with the actual data sets.

Implementation

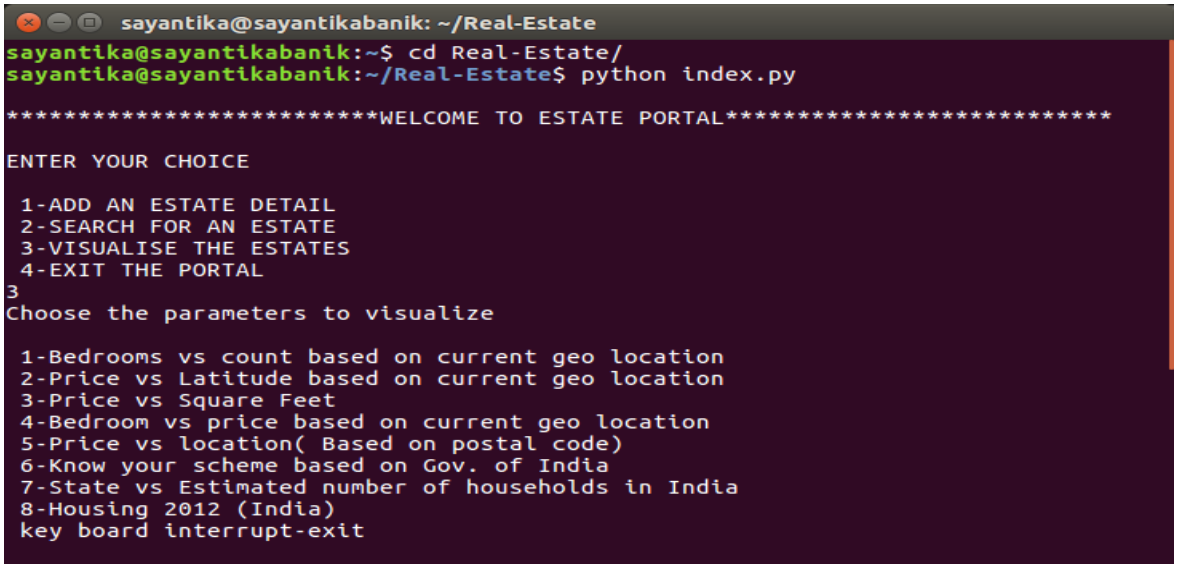
Fire up the console and run the script, the (os.system auto starts the visualisation script embedded) reducing the file size.

Python modules used-

• pandas

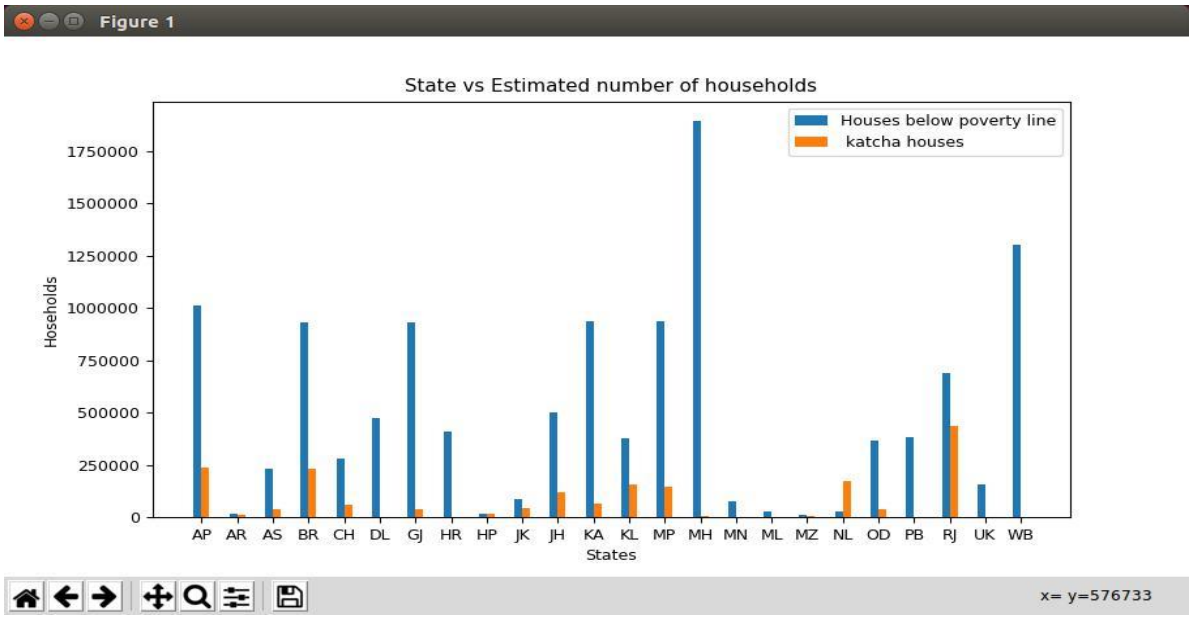
• numpy

• Matplotlib

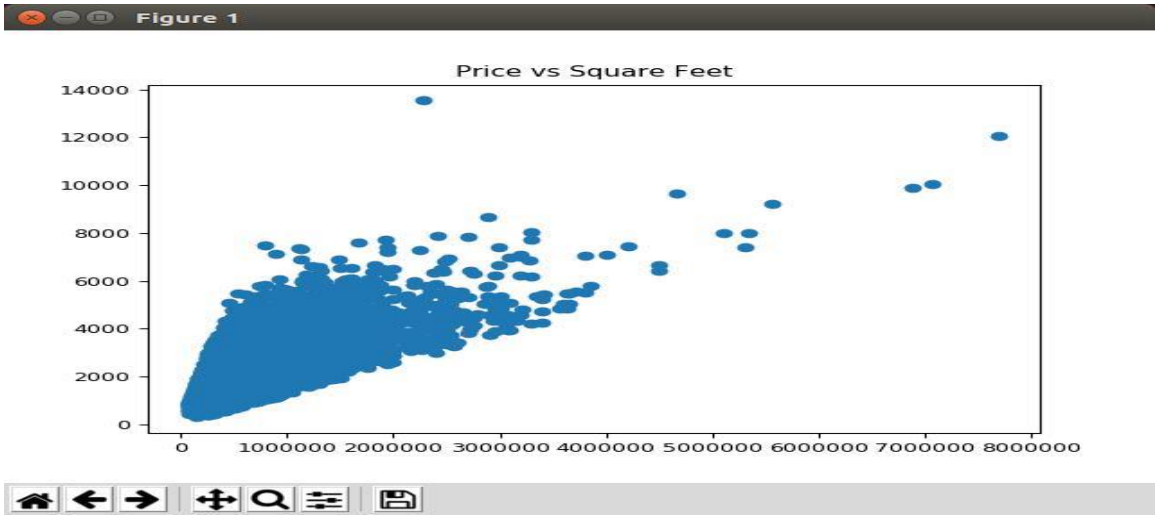


Example Plots Generated -

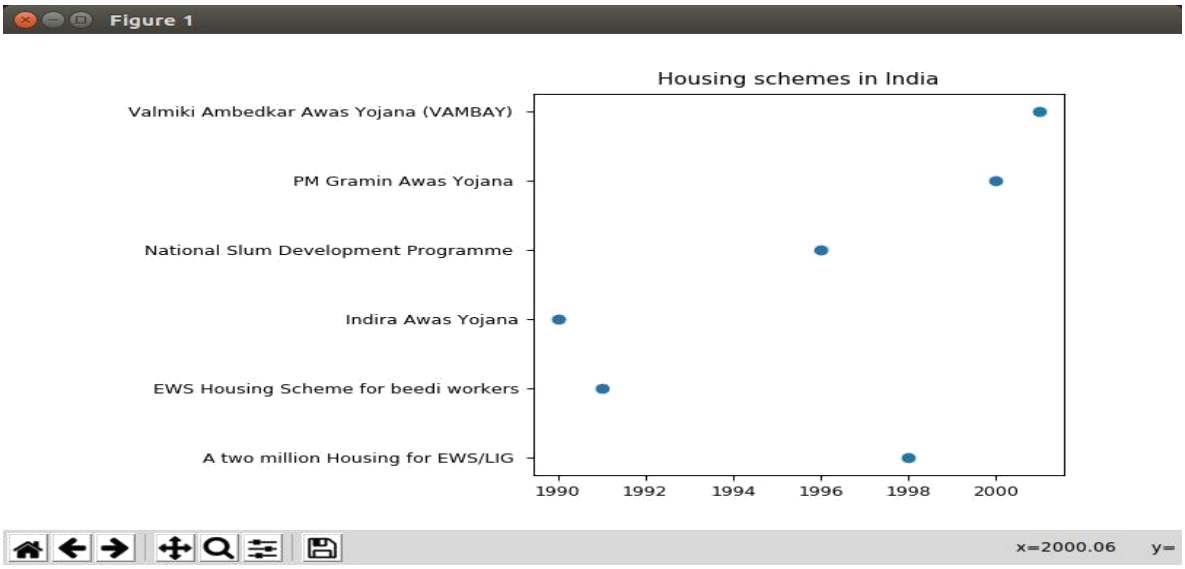
The plot generated analyze the housing developments in India for different states.



The plot depicts the variation of prices based on the square feet



Housing milestones/schemes in the history of Indian governance.



Chapter 4
TESTING

CHAPTER 4

4.1 TEST CASES

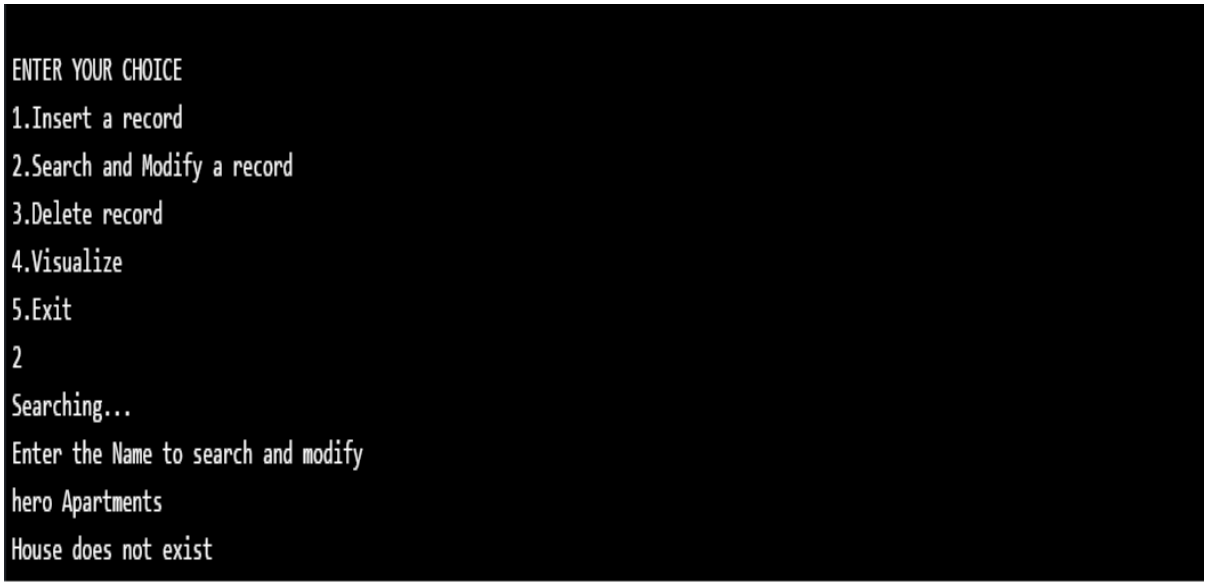
S/No. of Test Case	1
Feature being Tested	Insertion
Description	Adding data to the file
Expected Output	Prompt message appears to add data to the file
Actual Output	Prompt message appears to add data to the file
Remarks	Success

```
ENTER YOUR CHOICE
1.Insert a record
2.Search and Modify a record
3.Delete record
4.Visualize
5.Exit
1
Enter Estate Name
Perus Apartment
Enter Estate Address
12th cross,Yashwantpur,Bangalore
Enter Estate Size ( in sq feet)
1300
Enter Estate Price ( in Rupees)
5000000
Enter Estate Owner
Anagha
Enter Estate Condition
Sale
```

S/No. of Test Case	2
Feature being Tested	Searching
Description	Searching data in the file
Expected Output	Prompt message appears to input name of estate
Actual Output	Prompt message appears to input name of estate
Remarks	Success

```
1.Insert a record
2.Search and Modify a record
3.Delete record
4.Visualize
5.Exit
2
Searching...
Enter the Name to search and modify
Heritage Estate
Record found
Select the field to modify
1.Address
2.Size
3.Price
4.Owner
5.Condition
3
Enter the new price
1500
```

S/No. of Test Case	3
Feature being Tested	Searching
Description	Checking for invalid entry
Expected Output	Prompt Appears stating the estate does not exist.
Actual Output	Prompt Appears stating the estate does not exist.
Remarks	Success



S/No. of Test Case	4
Feature being Tested	Deletion
Description	Deleting Data
Expected Output	Deleting Data
Actual Output	Deleting Data
Remarks	Success

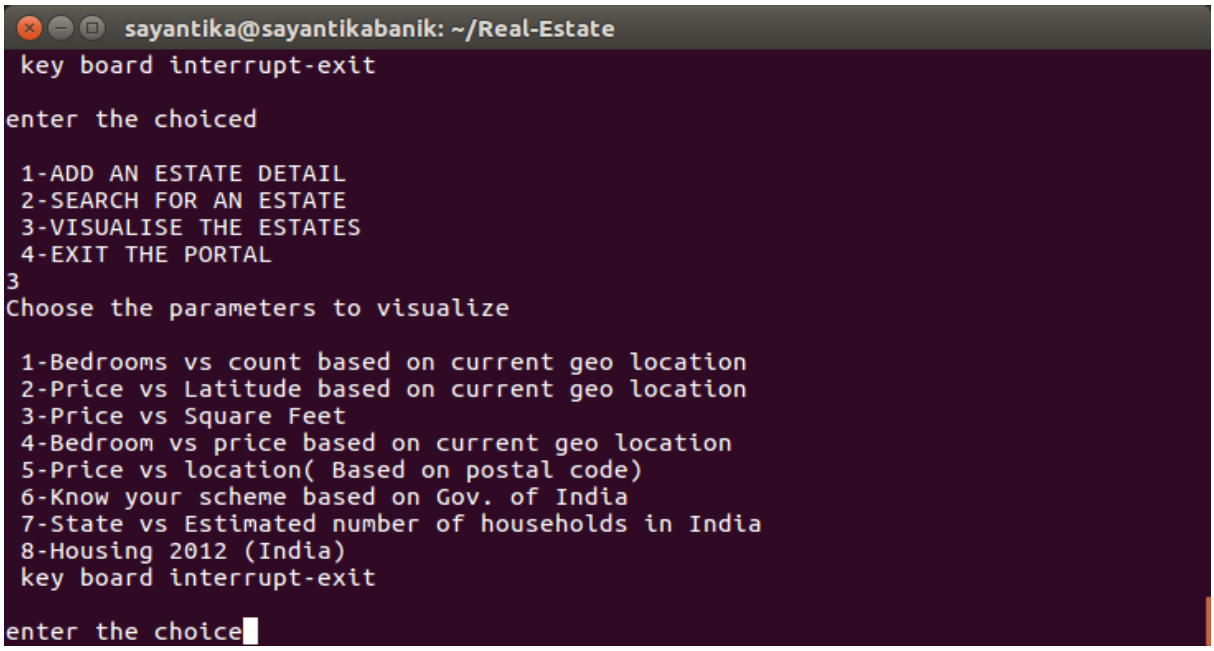
```
ENTER YOUR CHOICE
1.Insert a record
2.Search and Modify a record
3.Delete record
4.Visualize
5.Exit
3
Enter the Name of the house to be Deleted
Perus Apartment
Record found
Record Deleted
1.Insert a record
2.Search and Modify a record
3.Delete record
4.Visualize
5.Exit
```

S/No. of Test Case	5
Feature being Tested	Deletion
Description	Checking for invalid entry
Expected Output	Prompt Appears stating the estate does not exist.
Actual Output	Prompt Appears stating the estate does not exist.
Remarks	Success

```
1.Insert a record
2.Search and Modify a record
3.Delete record
4.Visualize
5.Exit
3
Enter the Name of the house to be Deleted
Hero Apartment
House does not exist
```

S/No. of Test Case	6
Feature being Tested	Portal Menu
Description	Checking for the portal menu display
Expected Output	Menu appears along with instructions
Actual Output	Menu appears along with instructions
Remarks	Success

S/No. of Test Case	7
Feature being Tested	Visualization
Description	Visualizing various entities
Expected Output	Visualizing various entities (options appear to choose)
Actual Output	Visualizing various entities (options appear to choose)
Remarks	Success



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Chapter 5
CONCLUSIONS

CHAPTER 5

CONCLUSION

5.1 LIMITATIONS OF THE PROJECT

- The current portal visualizes data for the provided data set only.
- The proposed project does not have a graphical user interface.
- The proposed project uses only primary index as a parameter for the operation of indexing.

5.2 FUTURE ENHANCEMENT

While this project exploits the searching depending on various parameters, some features may affect the optimal classification of estates according to different customers. As part of our future enhancements, we aim to find these features and optimize them so as to find the most accurate solution with maximum efficiency.

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