

## Apna Ashiyana – A Home Floor Planning Platform

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**Abstract** - A home planner is necessary for organizing tasks and schedules, managing time effectively, setting goals for your home, and reducing stress associated with home management. As we know, most middle-class and lower-middle-class families live in India and about 30% of them also live on family rent and have only one dream to have a small house. And many people build their homes with great effort, in that too there would be a lot of problems, the main reason is lack of knowledge. No one knows very well how we can make maximum use of the land. How we can give the best design in the work budget and how can the map of the house as well as if we have to make for our living what should be the design and If it is to be made for rent, then the design should be a little, the idea of all this is very useful for the people, it is very necessary to make everyone aware about it and reach the knowledge.

Home plans are important because they provide a detailed blueprint of the design, layout, and features of a home. They help to ensure that the home is built according to the owner's preferences and requirements. Home plans also help to minimize construction errors, reduce costs, and ensure that the building process is completed efficiently. Overall, home plans are an essential tool for homeowners, builders, and architects to create a well-designed and functional home.

**Key Words:** 2D Home Design, React.js, Firebase, Home Planner

### 1. INTRODUCTION

Determine the specific information you want to collect, such as home design features, floor plans, number of rooms & washrooms etc. Look for sources where you can collect data, such as online home design websites, magazines, home builder websites, or architectural firms. Gather information from your sources, such as floor plans, blueprints, photos, and detailed descriptions of home features.

Once you have collected the data, organize it in a structured manner. You can use spreadsheets or databases to store and categorize the information. Use the information you have collected to inform your home planning decisions, such as selecting the right floor plans for your project.

The biggest reason for choosing this topic is that we also belong to a middle-class family and we have seen many people face this problem around us. All the people want a home with every facility in the less area and many people do not know, due to which the house of the people gets spoiled which they built with the hard earned money of a lifetime.

### 2. Body of Paper

#### An approach to filter 2D home design -

To find 2D home designs, use the Database API to search for a design in the database. For this, whatever details are entered like the user filters the design according to his need.

Search design in a database

Display the home architecture

**Designing Smart Homes** - Opportunities and Challenges" by S. Srinivasan, G. D. Abowd, and A. I. Arriaga. This paper explores the use of smart home technology to enhance home design and improve the quality of life for residents.

**Sustainable Home Design** - A Review of the State-of-the-Art" by S. K. Azad, M. J. Hossain, and M. A. Azad. This paper discusses sustainable home design, including the use of renewable energy, eco-friendly materials, and efficient building techniques.

**The Psychology of Home Design** - Understanding the Impact of Design on Human Behaviour" by E. O. Apeldoorn, L. de Boer, and H. A. M. Willemse. This paper explores the impact of home design on human behaviour, including how design can affect mood, productivity, and overall well-being.

**Universal Design in the Home** - A Review of Current Research" by M. P. Brennan, P. R. Hunter, and S. W. Tinker. This paper examines the principles of universal design and how they can be applied to home design to accommodate people with disabilities and aging in place.

**The Evolution of Home Design** - A Review of Historical Trends and Future Directions" by J. E. Spangler, J. F. McCabe, and R. A. Stone. This paper provides a historical overview of home design, including key design movements and trends, and discusses future directions for home design.

**Designing for Wellness** - Integrating Health and Well-being into Home Design" by K. D. Dang, R. B. Flanders, and M. M.

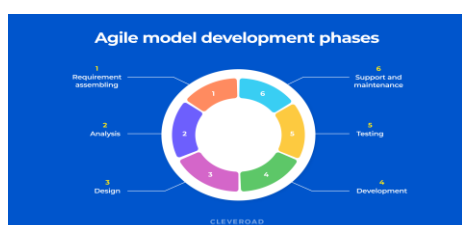
Shabazz. This paper discusses the growing trend of designing homes that promote health and well-being, including the use of biophilic design, natural lighting, and air quality control.

**Home Design and Environmental Psychology** - A Review of the Literature" by S. S. Yang and J. L. Nasar. This paper examines the relationship between home design and environmental psychology, including how design can affect human behaviour, mood, and perception.

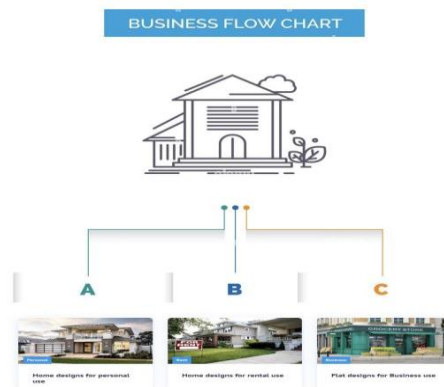
**Designing for Aging** - A Review of Best Practices in Home Design for Older Adults" by L. M. Beagan and M. J. Lenox. This paper discusses best practices in home design for older adults, including the use of universal design principles, technology, and supportive services.

For any software/application development , we need to go through some stages that are called Software Development Life Cycles .The Software Development Life Cycle (SDLC) refers to a methodology with clearly defined processes for creating high-quality software. in detail, the SDLC methodology focuses on the following phases of software development.

- Requirement analysis
- Planning and analysis
- Software design such as architectural design
- Development
- Testing
- Support and maintenance



Agile is a software development methodology that emphasizes flexibility and collaboration. It involves iterative and incremental development cycles, with regular feedback and adaptation to changing requirements. Agile teams prioritize delivering working software quickly and continuously, rather than attempting to complete all requirements upfront. The Agile model values individuals and interactions over processes and tools, and emphasizes the importance of self-organizing teams. Agile methodologies are widely used in modern software development and have spawned a range of frameworks, including Scrum and Kanban.

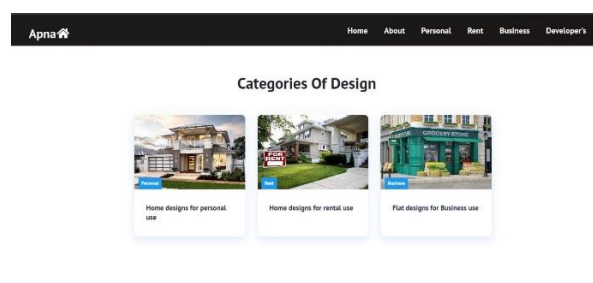


This flowchart represents about our project which consists of three section that are based on requirement of the customers. It depends upon the need whether it is for personal use or for buissness purpose.



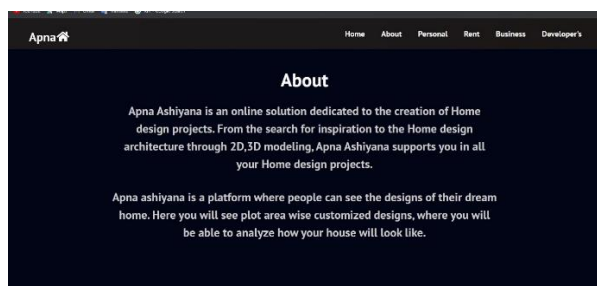
**Fig. 4.1 Apna Ashiyana - Home Page**

The figure shows the home page of Apna Ashiyana, with Home, About, Personal, Rent, Business and developer section in the top row.



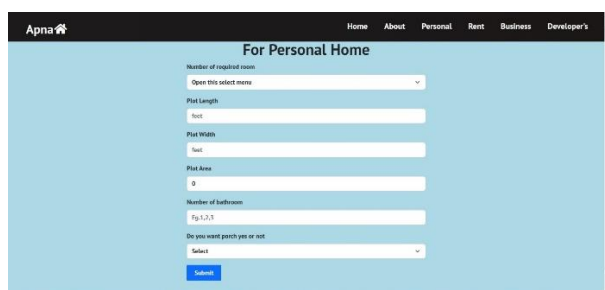
**Fig 4.2 Home Planner**

Home planner is divided into three categories, Personal categories, Rental Categories and Business categories to the needs of the customer.



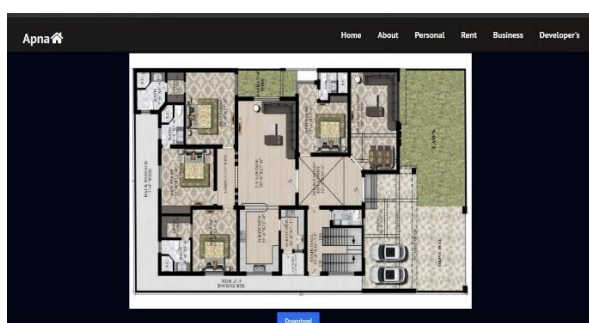
**Fig 4.3 About Section**

In about section it is implemented that how user will use Apna Ashiyana application how we will find best architecture 2d home design according to your requirement.



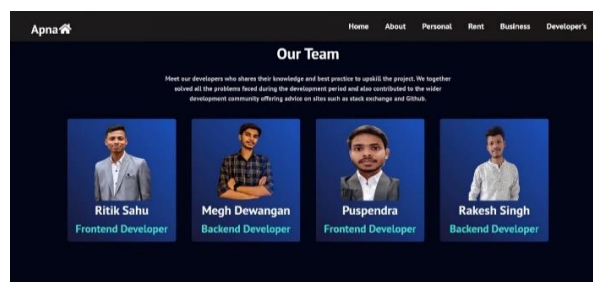
**Fig 4.4 Personal form - Section**

Personal form whether it is implemented that the user will enter according to the individual household, what will be the length of the plat, what will be the width of plat, how many rooms will be required, porch will be required or not.



**Fig 4.5 Personal 2D plan**

As the user has entered in the Personal section to show the best 2D plan will shown by filtering from the database and we will also have the option to download the plan.



**Fig 4.10 Developers Page**

Developer page where details of the project work model of the development team and all team members are shown.

## 3. CONCLUSIONS

Implementation is the stage in the project where the theoretical design is to be turned into a working system and is giving confidence on the new system for the user that will work efficiently and effectively. It involves careful planning, investigation of the current system and its constraints on implementation, design of method to achieve the change over, and evolution of change over method. Apart from planning, major tasks of preparing the implementation are education and training of users. The implementation process begins with preparing a plan for the implementation of the system. According to this plan, the activities are to be carried out, discussion made regarding the equipment and resources and the additional equipment has to be acquired to implement the new system. In a network backup system no. additional resources are needed. The project “Apna Ashiyana” includes several types of user work, the user can find relevant home designs. Users can benefit by using our website.

## ACKNOWLEDGEMENT

Our project is a platform to provide users a web platform so that who wants to build home can save cost of customer. Our website will help all the middle class people who wants to build their home in limited area and wanted variety of floor plans. Our Objective is to provide users an easy to use and user friendly facility for designing their home architecture and model before actually building it. Building of a new house will never stop and in future our project will be more helpful to people and we will bring many features in future and add to it like 3d visualization and interior designing etc.

## Scope of further work

- I. We will add more Home plans in future..
- II. We will add 3-D Plans.
- III. We will consider Vastu Shastra in future
- IV. We will make our website responsive in future

## REFERENCES

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2. "Better Homes and Gardens New Complete Guide to Home Design" by Better Homes and Gardens (2011, Wiley) - This guidebook provides tips and tricks for creating a functional and stylish home design. It covers everything from floor plans and color schemes to lighting and furniture selection.
3. "House Beautiful: The Home Book" by Carol Spier and House Beautiful Magazine (2007, Hearst Books) - This book offers a detailed guide to home design and renovation, including over 500 full-color photos and expert advice on everything from room layouts to outdoor living spaces.
4. "Architectural Graphic Standards for Residential Construction" by American Institute of Architects (2003, Wiley) - This comprehensive reference guide provides detailed information on building codes, construction methods, and design standards for residential construction.
5. "Home Designer Pro 2021" by Chief Architect - This software program allows homeowners and professionals to design, visualize, and plan their dream home using a 3D modeling tool. It includes a wide range of features and tools for creating floor plans, elevations, and construction drawings.
6. "Home Plan Designer: Creating Your Dream Home" by Sue Morris (2007, Sterling Publishing) - This book offers a step-by-step guide to designing a home plan, including selecting the right site, creating a floor plan, and selecting finishes and fixtures.
7. "The Home Plans Book: Over 330 New Home Plans Ideas and How to Make Them Your Own" by David Snell (2018, HarperCollins) - This book provides a wide range of home plan ideas and includes detailed illustrations and floor plans, as well as advice on customizing and adapting plans to meet your specific needs.
8. "The New Ultimate Book of Home Plans" by Editors of Creative Homeowner (2018, Creative Homeowner) - This book features over 800 home plans in a variety of styles and sizes, including both single-story and multi-level designs. Each plan includes detailed floor plans and exterior renderings.
9. "Home Designer Suite 2021" by Chief Architect - This software program provides advanced tools and features for designing and visualizing home plans in 3D. It includes a comprehensive library of design elements, including furniture, fixtures, and landscaping features.

## BIOGRAPHIES



Ms. SAVITA SAHU Currently working as a Assistant Professor in Computer Science Engineering in Government Engineering College, Bilaspur Chhattisgarh. Area of interest is teaching core computer science subjects like computer architecture, compiler design , DBMS etc.



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