

Design and Implementation of a Web-Based Information System and News Portal

by

Md. Sofiqul Islam

ID: CSE1901016154

Md. Pervez Bin Ekram

ID: CSE1901016027

Md. Ruman Islam

ID: CSE1901016126

Md. Ashrafuzzaman Apon

ID: CSE1901016141

Supervised by

Arifur Rahaman

Submitted in partial fulfillment of the requirements for the degree of
Bachelor of Science in Computer Science and Engineering



**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
SONARGAON UNIVERSITY (SU)**

September 2022

APPROVAL

The project titled “**Design and Implementation of a Web-Based Information System and News Portal**” submitted by Md. Sofiqul Islam (CSE1901016154), Md. Pervez Bin Ekram (CSE1901016027), Md. Ruman Islam (CSE1901016126), and Md. Ashrafuzzaman Apon (CSE1901016141) to the Department of Computer Science and Engineering, Sonargaon University (SU), has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Engineering and approved as to its style and contents.

Board of Examiners

Arifur Rahaman

Assistant Professor & Coordinator,
Department of Computer Science and Engineering
Sonargaon University (SU)

Supervisor

(Examiner Name & Signature)

Department of Computer Science and Engineering
Sonargaon University (SU)

Examiner 1

(Examiner Name & Signature)

Department of Computer Science and Engineering
Sonargaon University (SU)

Examiner 2

(Examiner Name & Signature)

Department of Computer Science and Engineering
Sonargaon University (SU)

Examiner 3

DECLARATION

We, hereby, declare that the work presented in this report is the outcome of the investigation performed by us under the supervision of **Arifur Rahaman, Assistant Professor & Coordinator**, Department of Computer Science and Engineering, Sonargaon University, Dhaka, Bangladesh. We reaffirm that no part of this project has been or is being submitted elsewhere for the award of any degree or diploma.

Countersigned

Signature

(Arifur Rahaman)
Supervisor

Md. Sofiqul Islam
ID: CSE1901016154

Md. Pervez Bin Ekram
ID: CSE1901016027

Md. Ruman Islam
ID: CSE1901016126

Md. Ashrafuzzaman Apon
ID: CSE1901016141

ABSTRACT

Today the world totally relays upon the electronic media for its everyday adventure. People have no time to be updated through newspapers or watching or listening to the news on television or radio. People today need to be updated on daily basis in this competitive world. Most of the people get information about the world around them through the internet which is fast, accessible, and reliable. The WWW (World Wide Web) is a huge, widely distributed, global information service center for Information services: news, advertisements, consumer information, financial management, education, government, e-commerce, etc, hyper-link information, access, and usage information. “Ajker Khobor” is a service introduced to meet the above requirement and to make the people updated about the news, views, reviews, breaking news, and latest headlines in different fields also the new inventions around the world.

ACKNOWLEDGMENT

At the very beginning, we would like to express my deepest gratitude to the Almighty Allah for giving us the ability and the strength to finish the task successfully within the schedule time.

We are auspicious that we had the kind association as well as supervision of **Arifur Rahaman**, Assistant Professor & Coordinator, Department of Computer Science and Engineering, Sonargaon University whose hearted and valuable support with best concern and direction acted as necessary recourse to carry out our project.

We would like to convey our special gratitude to **Prof. Dr Md Alamgir Hossain**, Dean, Faculty of Science and Engineering for his kind concern and precious suggestions.

We are also thankful to all our teachers during our whole education, for exposing us to the beauty of learning.

Finally, our deepest gratitude and love to my parents for their support, encouragement, and endless love.

LIST OF ABBREVIATIONS

CAFW	Conclusion and Future Works
DG	Data Gathering
DM	Development Models
ITOBNP	Introduction to Online Based News Portal
PL	Programing Language
SM	System Design
TD	Theme Development

TABLE OF CONTENTS

Title	Page No.
DECLARATION	iii
ABSTRACT	iv
ACKNOWLEDGEMENT	v
LIST OF ABBREVIATION	vi
CHAPTER 1	1 - 2
INTRODUCTION TO ONLINE BASED NEWS PORTAL	
1.1 Introduction	1
1.2 Objectives	1
1.3 Organization of the Project.....	2
CHAPTER 2	3 - 4
PROGRAMMING LANGUAGE	
2.1 Introduction	3
2.2 Programming Languages	3
2.2.1 Php	3
2.2.2 Mysql	3
2.2.3 WordPress	3
2.2.4 JavaScript	4
2.2.5 jQuery	4
2.2.6 Css	4
2.2.7 Html	4
CHAPTER 3	5 - 8
DEVELOPMENT MODELS	
3.1 Introduction	5
3.2 Waterfall Model	6

3.2	Prototype Model	7
3.3	Software Testing	8
CHAPTER 4		9 - 15
DATA GATHERING		
4.1	Introduction	9
4.2	Documentation	9
4.3	Data Flow Diagram	9
CHAPTER 5		16 - 18
SYSTEM DESIGN		
5.1	Introduction	16
5.2	Before Start Deign	16
5.3	User Panel Design	17
5.4	Admin Panel Design	18
CHAPTER 6		19 - 30
THEME DEVELPOMENT		
6.1	Introduction.....	19
6.2	Theme Development Standards	19
6.2.1	Anatomy of a Theme.....	19
6.2.2	Theme Stylesheet.....	20
6.2.3	Stylesheet Guidelines.....	20
6.2.4	Functions File	20
6.2.5	Template Files	21
6.2.6	Template Files List	21
6.2.7	Basic Templates	22
6.2.8	Custom Page Templates	23
6.3	Front-end Design.....	23
6.3.1	Home Page.....	23
6.3.2	Archive Page Design.....	26

6.3.3	Search Page Design.....	27
6.3.4	Single Page Design.....	28
6.3.5	Contact Page Design.....	28
6.3.6	Other Page Design.....	29
6.4	Mobile First Responsive Design.....	29
CHAPTER 7		31
CONCLUSION AND FUTURE WORKS		
7.1	Conclusion	31
7.2	Future Works	31
REFERENCES		32

LIST OF FIGURES

<u>Figure No.</u>	<u>Title</u>	<u>Page No.</u>
Fig.1.1	Waterfall Model	6
Fig.1.2	Prototype Model	7
Fig.2.1	Circle	9
Fig.2.2	Arrow	10
Fig.2.3	Square	10
Fig.2.4	Open Rectangle	10
Fig.2.5	A data flow diagram of Online News Portal for the USER	11
Fig.2.6	A data flow diagram of Online News Paper for the Admin	11
Fig.2.7	User Case Diagram	12
Fig.2.8	Admin Case Diagram	13
Fig.2.9	WordPress Template Hierarchy	15
Fig.3.1	The user panel flowchart part	18
Fig.4.1	Header	23
Fig.4.2	Search	24
Fig.4.3	News Ticker	24
Fig.4.4	Home Banner	24
Fig.4.5	Home Category	25
Fig.4.6	Footer	25
Fig.4.7	Home Page	26
Fig.4.8	Archive Page	27
Fig.4.9	Search Page	27
Fig.4.10	Single Page	28
Fig.4.11	Contact Page	28
Fig.4.12	Responsive Design	29
Fig.4.13	Mobile Menu	30

CHAPTER 1

INTRODUCTION TO ONLINE BASED NEWS PORTAL

1.1 Introduction

Today a growing number of people rely on the Internet as their primary source of information, especially news. Most broadcasting companies have their own websites and update them with new information as soon as it becomes available. It has also become evident that such a vast amount of information is often too much for people to sift through in order to get to that one news they are interested in. Major news portals such as Bdnews24.com or Jagonews24.com or Banglatribune.com or Dhakatribune.com significantly alternative the problem. Ajker News is a new but ambitious various information publishing and distribution company that will be based in Dhaka but has its audience in all over Bangladesh. Our niche as a news portal company covers News, Entertainment, Business, and Sports. Our state of the art in – house reviewers are located in a standard corner piece facility that is centrally located in the heart of Bangladesh. “Ajker Khobor” is a complete Web-Application for publishers who wants to drive an online newspaper. All content is stored in the database and divided into categories. Categories can be easily modified to browse and contain a self-organized interface to promote top stories. The software can be managed with a role-based system similar to a real newspaper. Page editors, managers, and Assistance, etc, focus on the role-based system to drive applications in a secure mode. The content schedule feature helps you to publish articles and news at an earlier time. Media News Portal create all articles and publish them within search engine-friendly URL.

1.2 Objectives

- A role-based system that can be managed like a real newspaper.
- To maintain a standard and structured website.
- To make a website that is updated 24 hours.
- To enhance the quality of news to the users.
- To give information about the different firms and companies of the country which are registered using our directory.
- To make a search engine for the directory and articles.
- To allow users to make comments about the news topics.

1.3 Organization of the Project

In this project we have developed an Online News Portal website. It is a dynamic system. It can be maintained and changed easily because it is based on the database. It contains web pages that are generated in real-time. These pages include Web scripting code, such as PHP. It is fully secured from unauthorized access. In a word, it can say that our Online News Portal website is a completely dynamic website.

To create the software, we have worked on all possible types of basic codes used for principle design based mainly on PHP, CSS, and HTML. Here we have used the incremental model to create the software. We have collected all kinds of information related to this software from the customer. Actually, it is one kind of Customized software product.

The project background model is specially designed on the basis of certain web programming languages like PHP, MYSQL, JAVASCRIPT, CSS, etc. In the following section here we are going to give a brief description of this language in this project.

CHAPTER 2

PROGRAMMING LANGUAGE

2.1 Introduction

A programming language is a computer language programmers use to develop software programs, scripts, or other sets of instructions for computers to execute.

Although many languages share similarities, each has its own syntax. Once a programmer learns the language's rules, syntax, and structure, they write the source code in a text editor or IDE. Then, the programmer often compiles the code into machine language that can be understood by the computer. Scripting languages, which do not require a compiler, use an interpreter to execute the script.

2.2 Programming Languages

2.2.1 PHP

- PHP stands for PHP: Hypertext Preprocessor
- PHP is a server-side scripting language, like ASP.net
- PHP scripts are executed on the server
- PHP supports many databases (MYSQL, Informix, Oracle, Sybase, Solid, Generic ODBC, etc.)
- PHP is an open source software
- PHP is free to download and use

2.2.2 MYSQL

- MYSQL is a database server
- MYSQL is ideal for both small and large applications
- MYSQL supports standard SQL
- MYSQL compiles on a number of platforms
- MYSQL is free to download and use

2.2.3 WORDPRESS

- WordPress is a free, open-source website creation platform. On a more technical level, WordPress is a content management system (CMS) written in PHP and paired with MySQL.
- It is the most popular CMS in the world.
- WordPress contributors work around the globe and have dedicated countless hours to building a tool that democratizes publishing.

2.2.4 JAVASCRIPT

- JavaScript is a scripting language that enables you to create dynamically updating content.
- JavaScript often abbreviated JS, is a programming language that is one of the core technologies of the World Wide Web, alongside HTML and CSS.
- JavaScript is a dynamic programming language that's used for web development, web applications, game development, and lots more.

2.2.5 JQUERY

- jQuery is a fast, small, and feature-rich JavaScript library.
- The purpose of jQuery is to make it much easier to use JavaScript on your website.
- It makes things like HTML document traversal and manipulation, event handling, animation, and Ajax much simpler with an easy-to-use API that works across a multitude of browsers.

2.2.6 CSS

- Cascading Style Sheets (CSS)
- Simple mechanism
- Easy for adding style (e.g., fonts, colors, spacing) to Web documents.

2.2.7 HTML

- HTML stands for Hyper Text Markup Language
- HTML is the standard markup language for creating Web pages
- HTML describes the structure of a Web page
- HTML consists of a series of elements
- HTML elements tell the browser how to display the content
- HTML elements label pieces of content such as "this is a heading", "this is a paragraph", "this is a link", etc.

CHAPTER 3

DEVELOPMENT MODELS

3.1 Introduction

Software development models provide the framework used to plan and execute software milestones and delivery cycles throughout the life of an application. While each design and development model has a different emphasis, they all follow the same basic flow of researching the requirements, design, implementation (coding), and verification or testing. The main difference is in the implementation of these phases. Most development models used today are variations of the classic waterfall model.

There are some Software Process Models these are listed below:-

1. Waterfall model
2. Prototype model

3.2 Waterfall Model

The waterfall model is probably the oldest and the best-known model as far as software development process models are concerned. The role of the waterfall model in software engineering is as important as its role in software testing. Of course, over the years, there are a number of other software process models which have been designed and implemented, but what is true is that a lot of them are based (in some way or the other) on the fundamental principle of the waterfall model.

On that note, let us examine the waterfall model in detail.

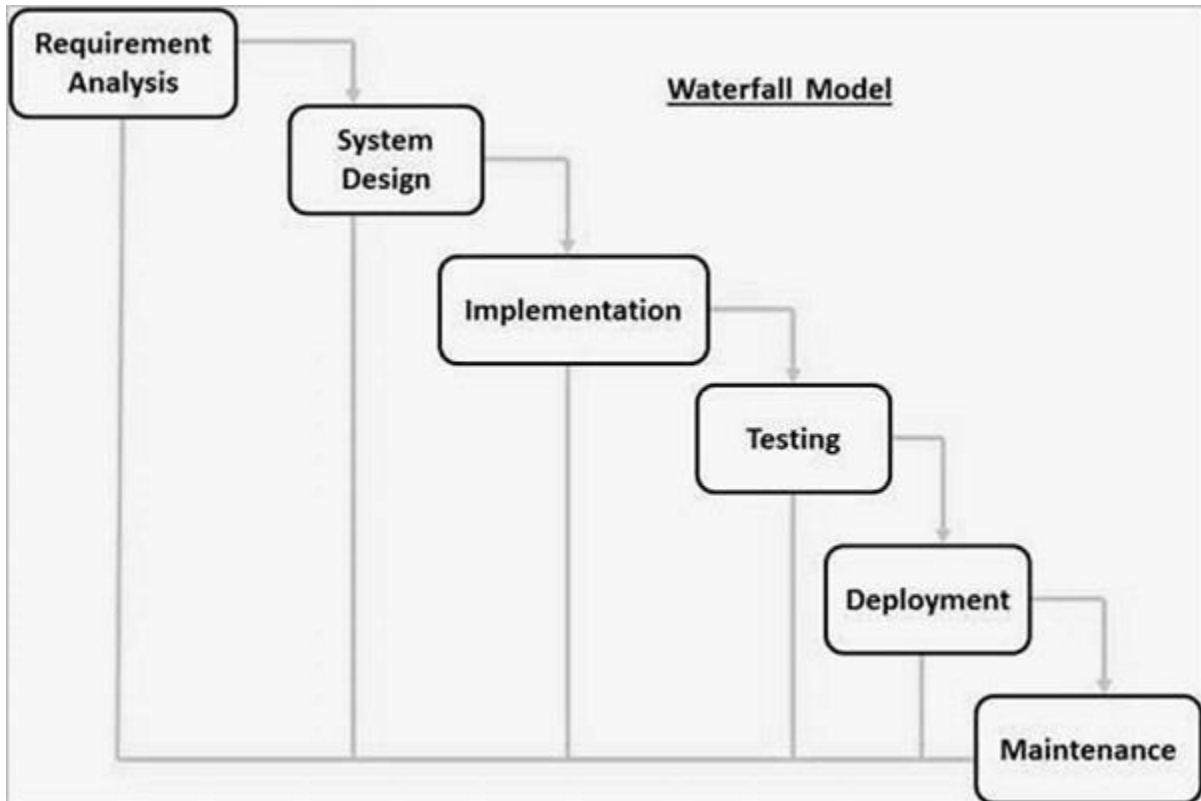


Fig. 1.1: Waterfall Model

Advantages of waterfall model:

- Simple and easy to understand and use.
- Easy to manage due to the rigidity of the model – each phase has specific deliverables and a review process.
- Phases are processed and completed one at a time.
- Works well for smaller projects where requirements are very well understood.

Disadvantages of the waterfall model:

- Once an application is in the testing stage, it is very difficult to go back and change something that was not well-thought-out in the concept stage.

- No working software is produced until late during the life cycle.
- High amounts of risk and uncertainty.
- Not a good model for complex and object-oriented projects.
- Poor model for long and ongoing projects.
- Not suitable for projects where requirements are at a moderate to high risk of changing.
- The project is short.

3.3 Prototype Model

The basic idea here is that instead of freezing the requirements before a design or coding can proceed, a throwaway prototype is built to understand the requirements. This prototype is developed based on the currently known requirements. By using this prototype, the client can get an “actual feel” of the system, since the interactions with the prototype can enable the client to better understand the requirements of the desired system. Prototyping is an attractive idea for complicated and large systems for which there is no manual process or existing system to help determine the requirements. The prototypes are usually not complete systems and many of the details are not built in the prototype. The goal is to provide a system with overall functionality.

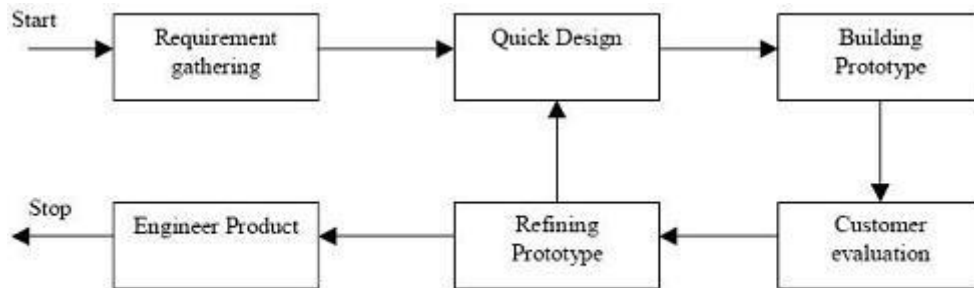


Fig. 1.2: Prototype Model

Advantages of Prototype model:

- Users are actively involved in the development
- Since in this methodology a working model of the system is provided, the users get a better understanding of the system being developed.
- Errors can be detected much earlier.
- Quicker user feedback is available leading to better solutions. Missing functionality can be identified easily.
- Confusing or difficult functions can be identified Requirements validation, Quick implementation of, incomplete, but functional, application.

Disadvantages of Prototype model:

- Leads to implementing and then repairing way of building systems.

- Practically, this methodology may increase the complexity of the system as the scope of the system may expand beyond the original plans.
- Incomplete application may cause application not to be used as the full system was designed Incomplete or inadequate problem analysis.

When to use the Prototype model:

- Prototype model should be used when the desired system needs to have a lot of interaction with the end users.
- Typically, online systems and web interfaces have a very high amount of interaction with end users and are best suited for the Prototype model. It might take a while for a system to be built that allows ease of use and needs minimal training for the end user.
- Prototyping ensures that the end users constantly work with the system and provide feedback which is incorporated into the prototype to result in a usable system. They are excellent for designing good human-computer interface systems.

3.4 Software Testing

Software Testing Process for executing a program with the intent of finding errors that are uncovering errors in a program makes it a feasible task and also trying to find the errors (whose presence is assumed) in a program. As it is a destructive process. To develop our project we use a software testing process.

After accepting the feasibility report from our departments we have decided to continue under a supervisor, Lecturer, Dept. of CSE, CBST. We have tried to understand the proposed system by detailed study of the various operations that will be performed by a system. System analysis is the process of studying an existing system to determine how it works and how it meets user needs. System analysis lays the groundwork for improvements to the system. The analysis involves an investigation, which in turn usually involves establishing a relationship with the client for whom the analysis is done and with the user of the system. This analysis phase is more of a thinking process. In this phase, we have improved the logical aspects of the system. To develop the system We have to consider about a key question “What must be done to solve the problem?”

In this phase, we studied the system processes, gathered Operational data, understand the information flow, found out weaknesses, and evolved solutions for overcoming the weaknesses of the system so as to achieve the goals. During the analysis phase, we have been concerned with:

- Data gathering
- Data analysis

CHAPTER 4

DATA GATHERING

4.1 Introduction

To complete this project first we have gathered necessary data or information from our supervisor, our respective teachers, friends, junior students of our department, and internet. It was complex because our system is unique and needed data are not available. It was expensive too and required a lot of work and time. To gather the information we have used certain sources:

- Documentation &
- Onsite observations

4.2 Documentation

During data gathering we searched for related information on Google. We found various procedures, manuals, reports, create account forms, loan request forms, and many other materials but all information was difficult to assess. We spend a lot of time reading manuals or reports.

4.3 Data Flow Diagram

A data flow diagram is a short road map for that graphically represents how the data moves through the existing system. we have used a data flow diagram in the design process. The data flow diagram provides facilitates communication between us and the user. DFD shows what kinds of information will be input to and output from the system, where the data will come from and go to, and where the data will be stored. It does not show information about the timing of processes, or information about whether processes will operate in sequence or in parallel.

Circle

The processes are represented by a circle that shows what the action was taken during the data-checking. A process accepts input data needed for the process to be carried out and produces data that it passes on to another part of the DFD.

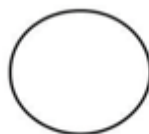


Fig. 2.1: Circle

Arrow

Arrow defines the direction of the data flow. It shows the direction between a data store to another data store, source to processes.



Fig. 2.2: Arrow

Square

Square indicates the source and destination of the system.



Fig. 2.3: Square

Open Rectangle

A database is a repository of data here it is represented by an open-ended box. This information may be stored either temporarily or permanently by the admin. Data may be changed or updated.



Fig. 2.4: Open Rectangle

Data flow diagram of Online News Portal for the USER

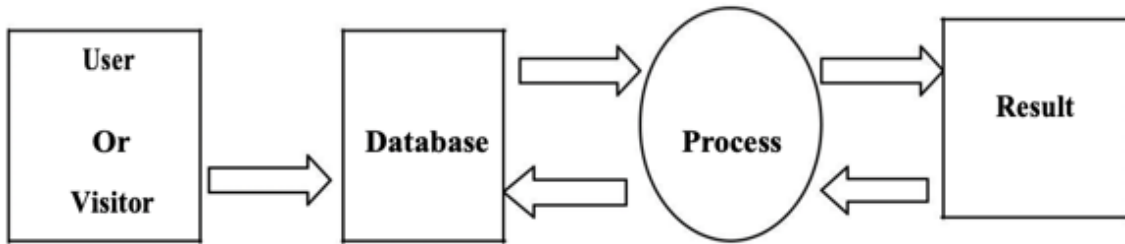


Fig. 2.5: A data flow diagram of Online News Portal for the USER

Data flow diagram of Online News Paper for the Admin

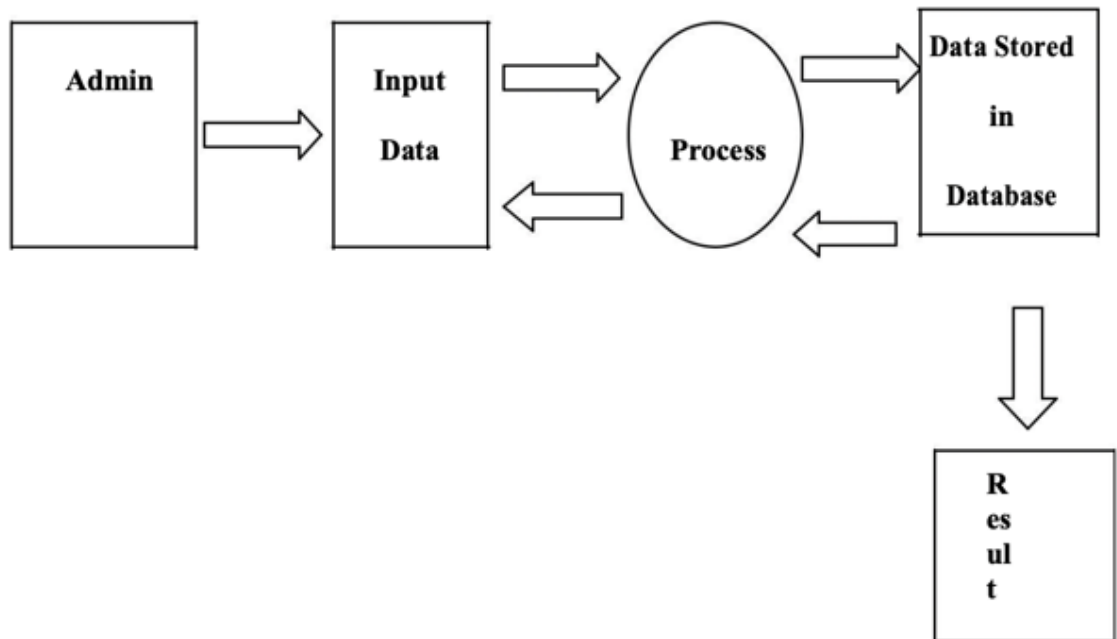


Fig. 2.6: A data flow diagram of Online News Paper for the Admin

Use Case Diagram

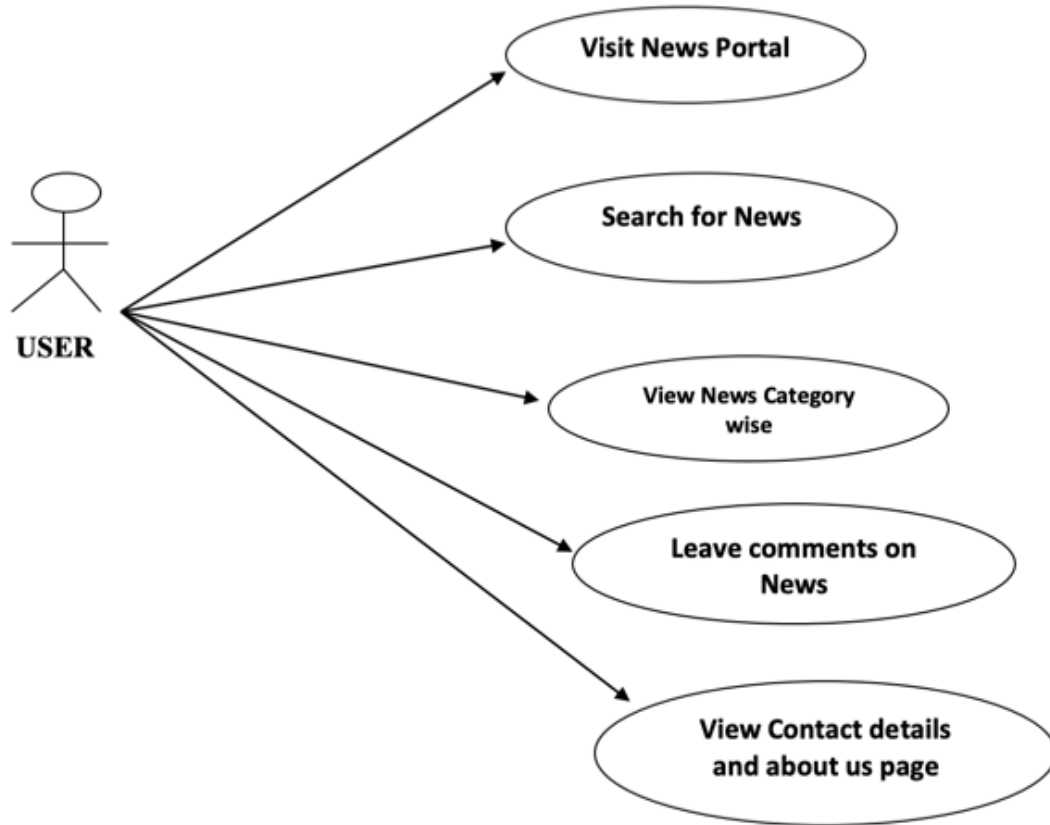


Fig. 2.7: User Case Diagram

Admin Case Diagram

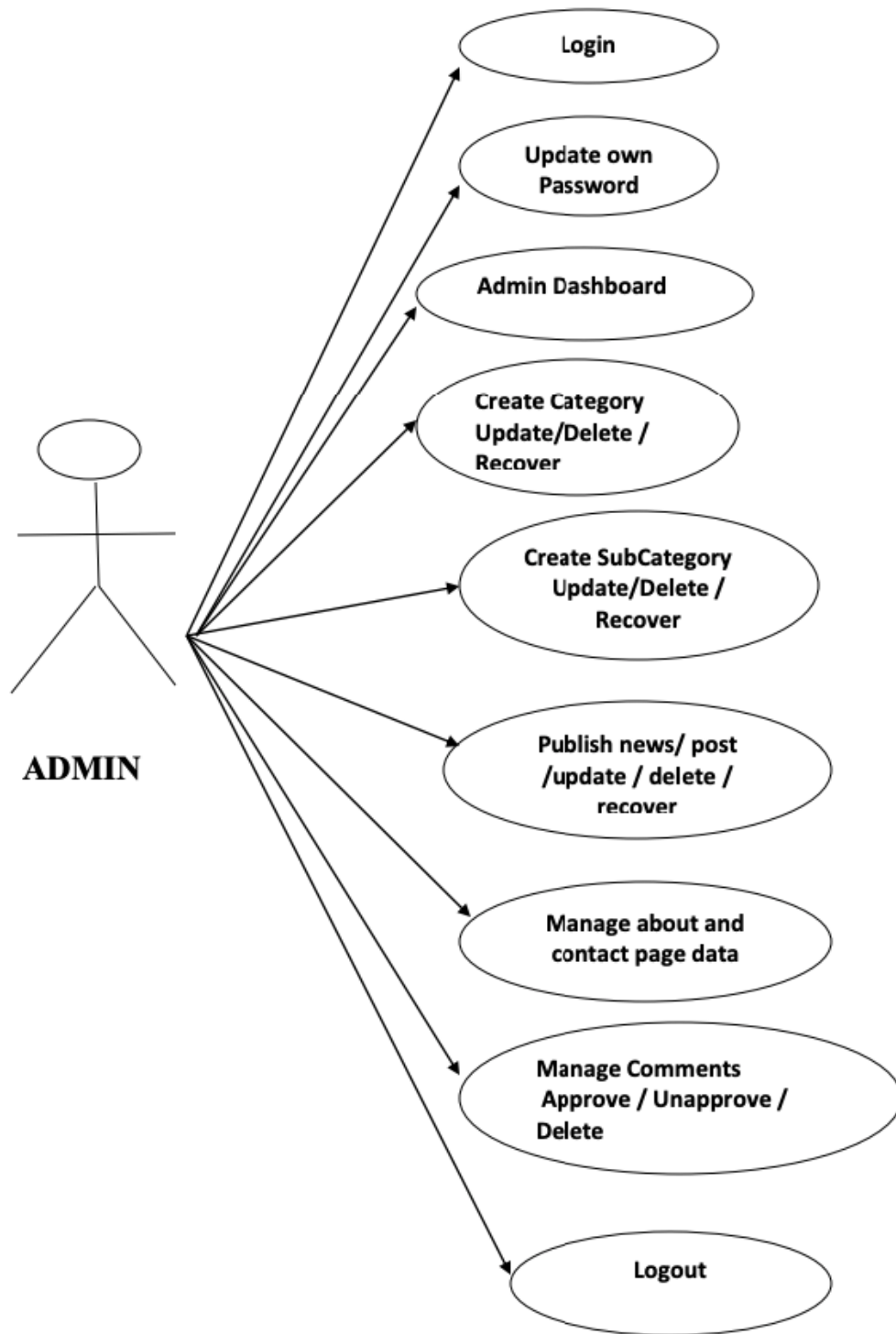


Fig. 2.8: Admin Case Diagram

ER Diagram:

The Entity-Relationship (ER) model was originally proposed by Peter in 1976 [Chen76] as a way to unify the network and relational database views. Simply stated the ER model is a conceptual data model that views the real world as entities and relationships. A basic component of the model is the Entity-Relationship diagram which is used to visually represent data objects. Since Chen wrote his paper the model has been extended and today it is commonly used for database design for the database designer, the utility of the ER model is: It maps well to the relational model. The constructs used in the ER model can easily be transformed into relational tables. It is simple and easy to understand with a minimum of training. Therefore, the model can be used by the database designer to communicate the design to the end user. In addition, the model can be used as a design plan by the database developer to implement a data model in specific database management software.

ER Notation

There is no standard for representing data objects in ER diagrams. Each modeling methodology uses its own notation. The original notation used by Chen is widely used in academic texts and journals but rarely seen in either CASE tools or publications by non-academics. Today, there are a number of notations used; among the more common are Bachman, crow's foot, and IDEFIX. All notational styles represent entities as rectangular boxes and relationships as lines connecting boxes. Each style uses a special set of symbols to represent the cardinality of a connection. The notation used in this document is from Martin. The symbols used for the basic ER constructs are:

- Entities are represented by labeled rectangles. The label is the name of the entity. Entity names should be singular nouns.
- Relationships are represented by a solid line connecting two entities. The name of the relationship is written above the line. Relationship names should be verbs. Attributes, when included, are listed inside the entity rectangle.
- Attributes which are identifiers are underlined. Attribute names should be singular nouns.
- Cardinality of many is represented by a line ending in a crow's foot. If the crow's foot is omitted, the cardinality is one.

Existence is represented by placing a circle or a perpendicular bar on the line. Mandatory existence is shown by the bar (looks like a 1) next to the entity for an instance is required. Optional existence is shown by placing a circle next to the entity that is optional.

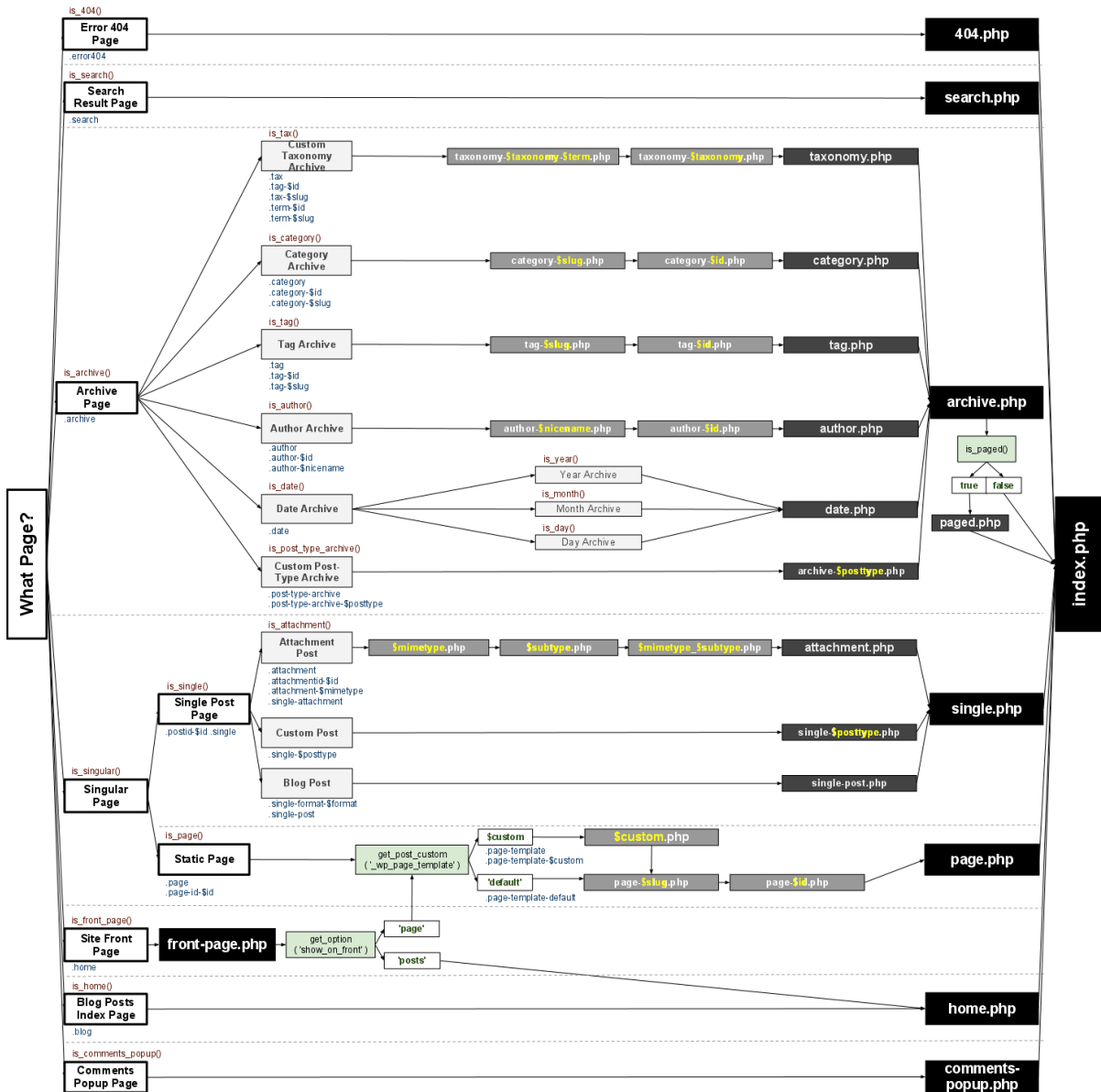


Fig. 2.9: WordPress Template Hierarchy

CHAPTER 5

SYSTEM DESIGN

5.1 Introduction

System design is the most creative and challenging. The System Design Document describes the system requirements, operating environment, system and subsystem architecture, files and database design, input formats, output layouts, human-machine interfaces, detailed design, processing logic, and external interfaces.

5.2 Before Start Deign

To make a web application for the Online News Paper website it needs to select a standard PC that can support XAMPP.

Hardware Requirements

XAMPP Software installs on a standard PC system. Minimum Hardware requirements are as follows:

- Processor –Celeron (R) Dual –Core CPU T3100@1.90GHz 1.90 GHz;
- Installed Memory (RAM) – at least 350 MB;
- System type-32 bit Operating System;
- Model-Presario CQ42 Notebook PC; Resolution1366/768;

Software requirements

XAMPP

XAMPP is an easy to install Apache distribution containing MySQL, PHP, and Perl. XAMPP is really very easy to install and use - just download, extract and start.

XAMPP for Windows

The distribution for Windows 2000, 2003, XP, Vista, 7, and 8. This version contains: Apache, MySQL, PHP + PEAR, Perl, mod_php, mod_perl, mod_ssl, OpenSSL, phpMyAdmin, Webalizer, Mercury Mail Transport System for Win32 and NetWare Systems v3.32, Ming, FileZilla FTP Server, mcrypt, eAccelerator, SQLite, and WEB-DAV + mod_auth_mysql. Apache 2.4.9 MySQL10.1.31Maria DB PHP 7.2.3 phpMyAdmin 4.7.9

Install WordPress on XAMPP

Step 1: Download and install XAMPP on your computer.

Step 2: Start the modules and test your server.

Step 3: Add the WordPress files to the XAMPP directory.

Step 4: Create a database for WordPress on a MySQL server.

Step 5: Install WordPress locally via the on-screen installer.

Programming Language

- HTML
- CSS
- JavaScript
- jQuery
- PHP
- MySQL
- WordPress

5.3 User Panel Design

In user panel design we have done our task for the user. Here we provide a facility for Online News Paper. On the index page, the user can select any options which are needed by him/her. By selecting options he/she can see the desired page. Then he/she can get the all-oriented information finally. The design of the user panel is shown in the following flow chart.

User Panel Flow Chart:

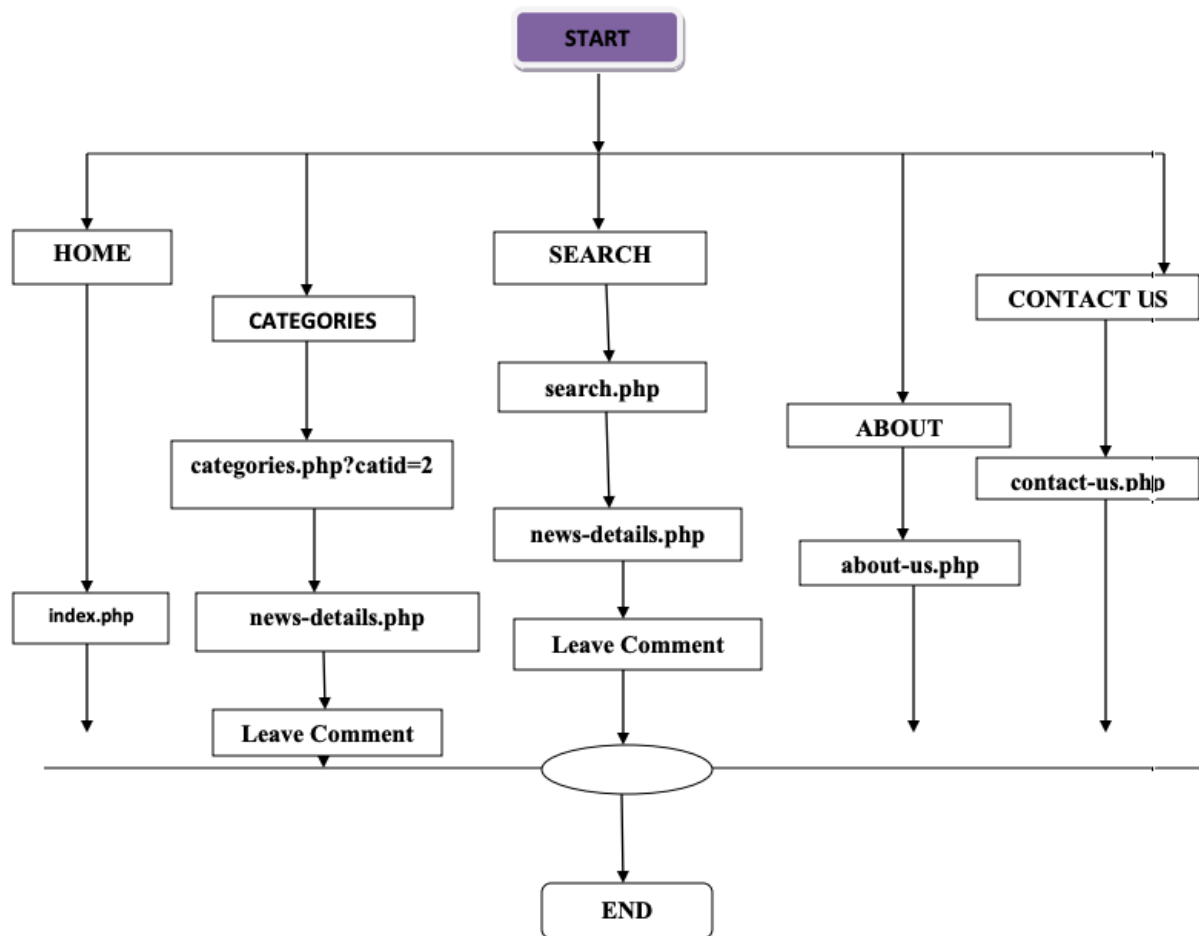


Fig. 3.1: The user panel flowchart part.

5.4 Admin Panel Design

We have designed a user login facility to manage and update all of the information. It is a fully secured page. Without an appropriate username and password, it cannot be accessed by anyone. For admin login after giving a username and password we need to click a login button, when we click the login button it is not directly entered on the home page, it stays on the login page. Then it starts a session and set two variables called username and password. If the username and password are matched with the database, they can enter in home page. It is not possible without clicking the login button. In case if username or password is not matched with the database then an Invalid username or password message is shown.

CHAPTER 6

THEME DEVELOPMENT

6.1 Introduction

WordPress Themes are files that work together to create the design and functionality of a WordPress site. Each Theme may be different, offering many choices for site owners to instantly change their website look.

You may wish to develop WordPress Themes for your own use, for a client project, or to submit to the WordPress Theme Directory. Why else should you build a WordPress Theme?

- To create a unique look for your WordPress site.
- To take advantage of templates, template tags, and the WordPress Loop to generate different website results and looks.
- To provide alternative templates for specific site features, such as category pages and search result pages.
- To quickly switch between two site layouts, or to take advantage of a Theme or style switcher to allow site owners to change the look of your site.

6.2 Theme Development Standards

WordPress Themes should be coded using the following standards:

- Use well-structured, error-free PHP and valid HTML. See WordPress Coding Standards.
- Use clean, valid CSS. See CSS Coding Standards.
- Follow design guidelines in Site Design and Layout.

6.2.1 Anatomy of a Theme

WordPress Themes live in subdirectories of the WordPress themes directory (wp-content/themes/ by default) which cannot be directly moved using the wp-config.php file. The Theme's subdirectory holds all of the Theme's stylesheet files, template files, and optional functions files (functions.php), JavaScript files, and images. For example, a Theme named "test" would reside in the directory wp-content/themes/test/. Avoid using numbers for the theme name, as this prevents it from being displayed in the available themes list.

WordPress includes a default theme in each new installation. Examine the files in the default theme carefully to get a better idea of how to build your own Theme files.

6.2.2 Theme Stylesheet

In addition to CSS style information for your theme, `style.css` provides details about the Theme in the form of comments. The stylesheet must provide details about the Theme in the form of comments. No two Themes are allowed to have the same details listed in their comment headers, as this will lead to problems in the Theme selection dialog. If you make your own Theme by copying an existing one, make sure you change this information first.

The following is an example of the first few lines of the stylesheet, called the stylesheet header, for the Theme "Twenty Thirteen":

6.2.3 Stylesheet Guidelines

- Follow CSS coding standards when authoring your CSS.
- Use valid CSS when possible. As an exception, use vendor-specific prefixes to take advantage of CSS3 features.
- Minimize CSS hacks. The obvious exception is browser-specific support, usually versions of IE. If possible, separate CSS hacks into separate sections or separate files.
- All possible HTML elements should be styled by your theme (unless it is a child theme), both in post/page content and in comment content.
- Tables, captions, images, lists, block quotes, et cetera.
- Adding print-friendly styles is highly recommended.
- You can include a print stylesheet with `media="print"` or add in a print media block in your main stylesheet.

6.2.4 Functions File

A theme can optionally use a functions file, which resides in the theme subdirectory and is named `functions.php`. This file basically acts like a plugin, and if it is present in the theme you are using, it is automatically loaded during WordPress initialization (both for admin pages and external pages). Suggested uses for this file:

- Enqueue theme stylesheets and scripts. See `wp_enqueue_scripts`.
- Enable Theme Features such as Sidebars, Navigation Menus, Post Thumbnails, Post Formats, Custom Headers, Custom Backgrounds, and others.
- Define functions used in several template files of your theme.
- Set up an options menu, giving site owners options for colors, styles, and other aspects of your theme.

The default WordPress theme contains a `functions.php` file that defines many of these features, so you might want to use it as a model. Since `functions.php` basically functions as a plugin, the `Function_Reference` list is the best place to go for more information on what you can do with this file.

6.2.5 Template Files

Templates are PHP source files used to generate the pages requested by visitors and are output as HTML. Template files are made up of HTML, PHP, and WordPress Template Tags.

Let's look at the various templates that can be defined as part of a Theme.

WordPress allows you to define separate templates for the various aspects of your site. It is not essential, however, to have all these different template files for your site to fully function. Templates are chosen and generated based upon the Template Hierarchy, depending upon what templates are available in a particular Theme.

As a Theme developer, you can choose the amount of customization you want to implement using templates. For example, as an extreme case, you can use only one template file, called `index.php` as the template for all pages generated and displayed by the site. A more common use is to have different template files generate different results, to allow maximum customization.

6.2.6 Template Files List

Here is the list of the Theme files recognized by WordPress. Of course, your Theme can contain any other stylesheets, images, or files. Just keep in mind that the following have special meaning to WordPress -- see Template Hierarchy for more information.

style.css

The main stylesheet. This must be included with your Theme, and it must contain the information header for your Theme.

index.php

The main template. If your Theme provides its own templates, `index.php` must be present.

comments.php

The comments template.

front-page.php

The front page template.

home.php

The home page template, which is the front page by default. If you use a static front page this is the template for the page with the latest posts.

single.php

The single post template. Used when a single post is queried. For this and all other query templates, index.php is used if the query template is not present.

single-{post-type}.php

The single post template used when a single post from a custom post type is queried. For example, single-book.php would be used for displaying single posts from the custom post type named "book". index.php is used if the query template for the custom post type is not present.

page.php

The page template. Used when an individual Page is queried.

category.php

The category template. Used when a category is queried.

taxonomy.php

The term template. Used when a term in a custom taxonomy is queried.

author.php

The author template. Used when an author is queried.

archive.php

The archive template. Used when a category, author, or date is queried. Note that this template will be overridden by category.php, author.php, and date.php for their respective query types.

search.php

The search results template. Used when a search is performed.

404.php

The 404 Not Found template. Used when WordPress cannot find a post or page that matches the query.

6.2.7 Basic Templates

At the very minimum, a WordPress Theme consists of two files:

- style.css
- index.php

Both of these files go into the Theme directory. The index.php template file is very flexible. It can be used to include all references to the header, sidebar, footer, content, categories, archives, search, error, and any other page created in WordPress.

6.2.8 Custom Page Templates

The files defining each page template are found in your Themes directory. To create a new custom page template for a page you must create a file. Let's call our first-page template for our page snarfer.php. At the top of the snarfer.php file, put the following:

The above code defines this snarfer.php file as the "Snarfer" template. Naturally, "Snarfer" may be replaced with most any text to change the name of the page template. This template name will appear in the Theme Editor as the link to edit this file.

6.3 Front-end Design

Somewhere between design – a world of personas, pixels, and polish – and engineering – a world of logic, loops, and Linux – lies front-end design. Frontend design involves creating the HTML, CSS, and presentational JavaScript code that makes up a user interface.

6.3.1 Home Page

For our homepage design we divide our template into 3 parts
Example: header.php, footer.php, and page.php or template

Header:

First, We need to design the header area of the website.

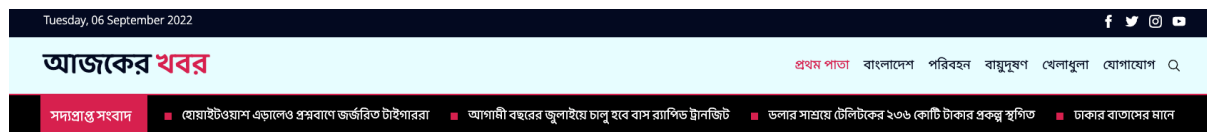


Fig. 4.1: Header

Step1: Creating the top section

on the left side we are adding today's date and right side adding social icons with links
We're adding options to change those links from Customizer.

Step2: Create a middle header

Add the logo on the left side with the homepage link. This logo can be changed from Customizer.

On the right side create and add the WP menu.

Search Icon:

Add a search icon as the last child of the menu item. It will slide down the section when a client clicks on the icon. We're using JavaScript for this animation.

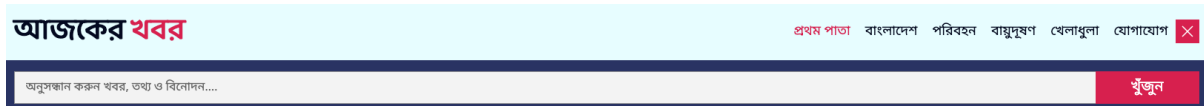


Fig. 4.2: Search

Step3: Under the menu we're adding a news ticker javascript plugin for the rolling news



Fig. 4.3: News Ticker

We use an unordered list with query of 10 posts max for this news ticker.

Banner Section:

Under the header area there is a section called Banner. There is a JavaScript slider on the left side and a featured Sports posts section on the right side.

Slider: For the slider, we are using the “Swiper” JS plugin.



Fig. 4.4: Home Banner

Featured Sports: We're using wp-query with a while loop to show the last 3 latest posts for this section.

Homepage Section: Under the banner area there are 5 sections that show the 5 best category posts. Every category show max of 6 posts

বাংলাদেশ



ডলার সাপ্লয়ে টেলিটকের ২৩৬ কোটি টাকার প্রকল্প স্থগিত

মন্ত্রী বলেন, 'প্রকল্পটি একেবারে বাতিল করা হয়নি, পরবর্তীতে এটা বাস্তবায়ন করা হবে' বৈশ্বিক সংকটের মধ্যে সরকারের নেওয়া বিচারের ডলার সাপ্লয়ে পদক্ষেপের অংশ হিসেবে রাজধানীতে বাণিজ্যিকভাবে ফাইভ-জি সেবা চালুর জন্য টেলিটকের ২৩৬ কোটি টাকার একটি...



ঢাকার বাতাসের মানের উন্নতি

শনিবার বিয়ের দৃষ্টিতে শহরের তালিকায় দশম স্থানে রয়েছে ঢাকা থেকে বেগে বৃষ্টি হওয়ায় গত ২৪ ঘণ্টায় ঢাকার বাতাসের মানের উল্লেখযোগ্যভাবে উন্নতি হয়েছে। শনিবার (৬ আগস্ট) সকাল ৯টার দিকে এমায় কোয়ালিটি ইনডেক্স (একিউআই) স্কোর ৯৮...



ঢাকাসহ ৬ বিভাগে মাঝারি ধরণের বৃষ্টির সম্ভাবনা

রংপুর, রাজশাহী, পাবনা ও চাঁদপুর জেলা সমূহের উপর দিয়ে ঘনু তাপপ্রবাহ বয়ে যাচ্ছে এবং তা প্রশমিত হতে পারে ঢাকাসহ ছয় বিভাগের অনেক জায়গায় অস্থায়ীভাবে দমকা হাওয়াসহ হালকা থেকে মাঝারি ধরণের বৃষ্টি অথবা বজ্রসহ বৃষ্টি...



বাংলাদেশ বিজ্ঞান রাজধানী



পরিবেশ বাংলাদেশ



গ্যাস-বিদ্যুত বাংলাদেশ

Fig. 4.5: Home Category

We're using this wp-query to show max 6 posts on this section.

Footer:

Add 2 widgets to the footer area. One is for about the news portal and another one is for the menu and latest posts.

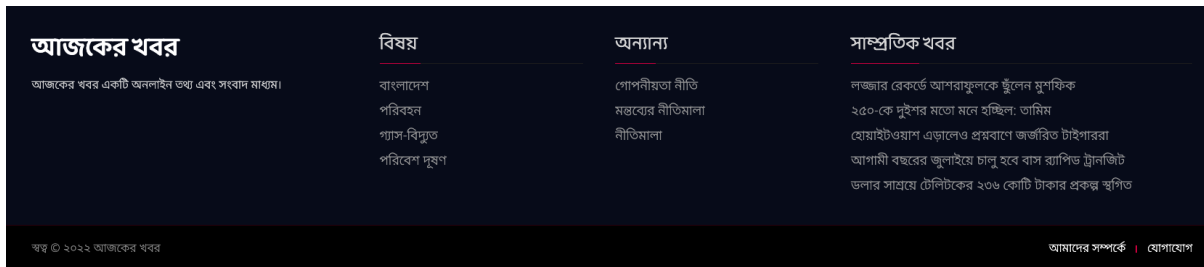


Fig. 4.6: Footer

Under the footer widgets, we create a footer bottom section that contains copyright text on the left side, and on the right side, there is a footer menu.

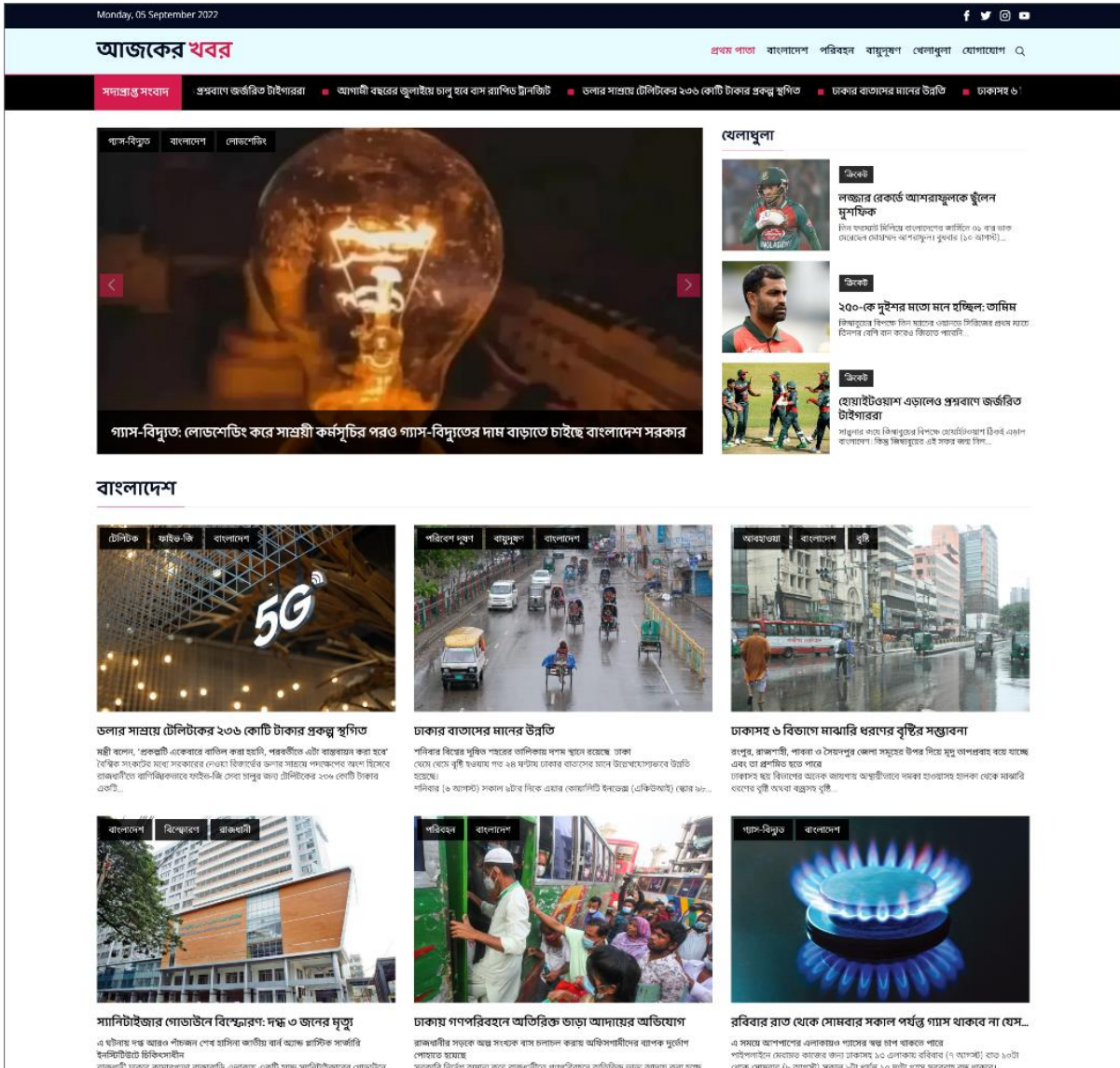


Fig. 4.7: Home Page

6.3.2 Archive Page Design

Design the archive.php page for the Archive posts category.

Category: **বাংলাদেশ**



ডলার সাশ্রয়ে টেলিটকের ২৩৬ কোটি টাকার প্রকল্প স্থগিত
 মন্ত্রী বলেন, 'প্রকল্পটি একেবারে বাতিল করা হয়নি, পরবর্তীতে এটা বাস্তবায়ন করা হবে'।
 বৈশ্বিক সংকটের মধ্যে সরকারের নেওয়া বিজ্ঞপ্তির ডলার সাশ্রয়ে পরিকল্পনার অংশ হিসেবে রাজধানীতে বাণিজ্যিকভাবে ফাইভ-জি সেবা চালুর জন্য টেলিটকের ২৩৬ কোটি টাকার একটি...



ঢাকার বাতাসের মানের উন্নতি
 শনিবার বিশ্বের দূষিত শহরের তালিকায় দশম স্থানে রয়েছে ঢাকা।
 হেমে বেমে বৃষ্টি হওয়ায় গত ২৪ ঘণ্টায় ঢাকার বাতাসের মানে উল্লেখযোগ্যভাবে উন্নতি হয়েছে।
 শনিবার (৬ আগস্ট) সকাল ৯টার দিকে এয়ার কোয়ালিটি ইনডেক্স (একিউআই) স্কোর ৯৮...



ঢাকাসহ ৬ বিভাগে মাঝারি ধরনের বৃষ্টির সম্ভাবনা
 রংপুর, রাজশাহী, পাবনা ও সৈয়দপুর জেলা সমূহের উপর নিয়ে মৃদু তাপপ্রবাহ হয়ে যাচ্ছে এবং তা প্রশমিত হতে পারে।
 ঢাকাসহ ছয় বিভাগের অনেক জায়গায় অস্থায়ীভাবে দমকা হাওয়াসহ হালকা থেকে মাঝারি ধরনের বৃষ্টি অথবা বজ্রসহ বৃষ্টি...



Fig. 4.8: Archive Page

6.3.3 Search Page Design

Design the search.php page to show the search result like our theme design.

Search Results for: **বাংলাদেশ**



অপহরণ: ইয়েমেনে অপহৃত বাংলাদেশি জাতিসংঘ কর্মীকে সা...
 অনলাইনে জিহাদি তৎপরতা পর্যবেক্ষণকারী সংস্থা সাইট ইউনিজেল বলেছে, ইয়েমেনে অপহৃত বাংলাদেশি জাতিসংঘ কর্মীর একটি ভিডিও প্রকাশ করেছে আসি সংগঠন আল কায়েদা।
 ভিডিওতে অপহৃত...



গ্যাস-বিদ্যুত: লোডশেডিং করে সশ্রমী কর্মসূচির পরও গ্যাস...
 বাংলাদেশে গ্যাসের জ্বালানি সংকটের কারণে খনিজ বিদ্যুতের লোডশেডিং করা হচ্ছে, সেই পটভূমিতে গ্যাস ও বিদ্যুতের নাম আবার বাড়াতে চাইছে দেশটির সরকার।
 জ্বালানি ও...



জ্বালানি সংকট: বাংলাদেশে বাস ভাড়া বাড়ানো হয়েছে, রবিবার ...
 বাংলাদেশে জ্বালানি তেলের নজিরবিহীন দাম বৃদ্ধির প্রেক্ষাপটে বাস ভাড়াও বাড়ানোর ঘোষণা করা হয়েছে।
 শনিবার সন্ধ্যা থেকে বাস মালিক সমিতি এবং বাংলাদেশ সড়ক পরিবহন...



Fig. 4.9: Search Page

6.3.4 Single Page Design

Design the single.php page to show a single news post like our theme design.

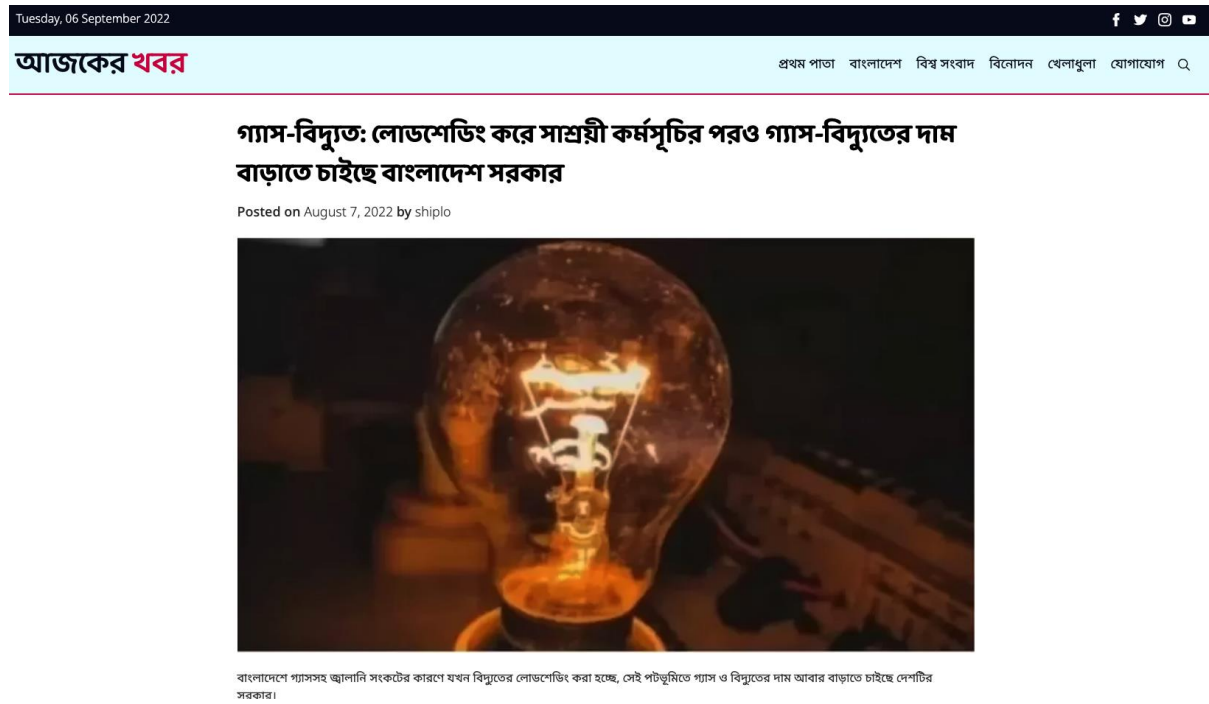


Fig. 4.10: Single Page

6.3.5 Contact Page Design

Design the page-contact.php page to show the news portal information and a contact form for you to contact with admin or support.

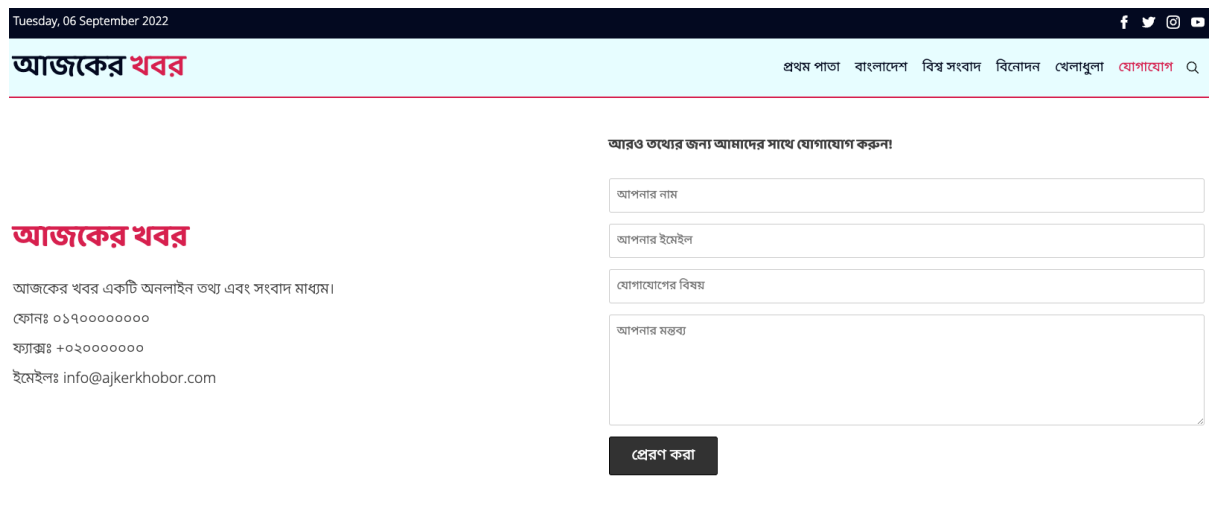


Fig. 4.11: Contact Page

We're using contact form 7 for this form.

6.3.6 Other Page Design

Design the page.php page template for other pages to show information and text in a good way on the front end like other pages.

6.4 Mobile First Responsive Design

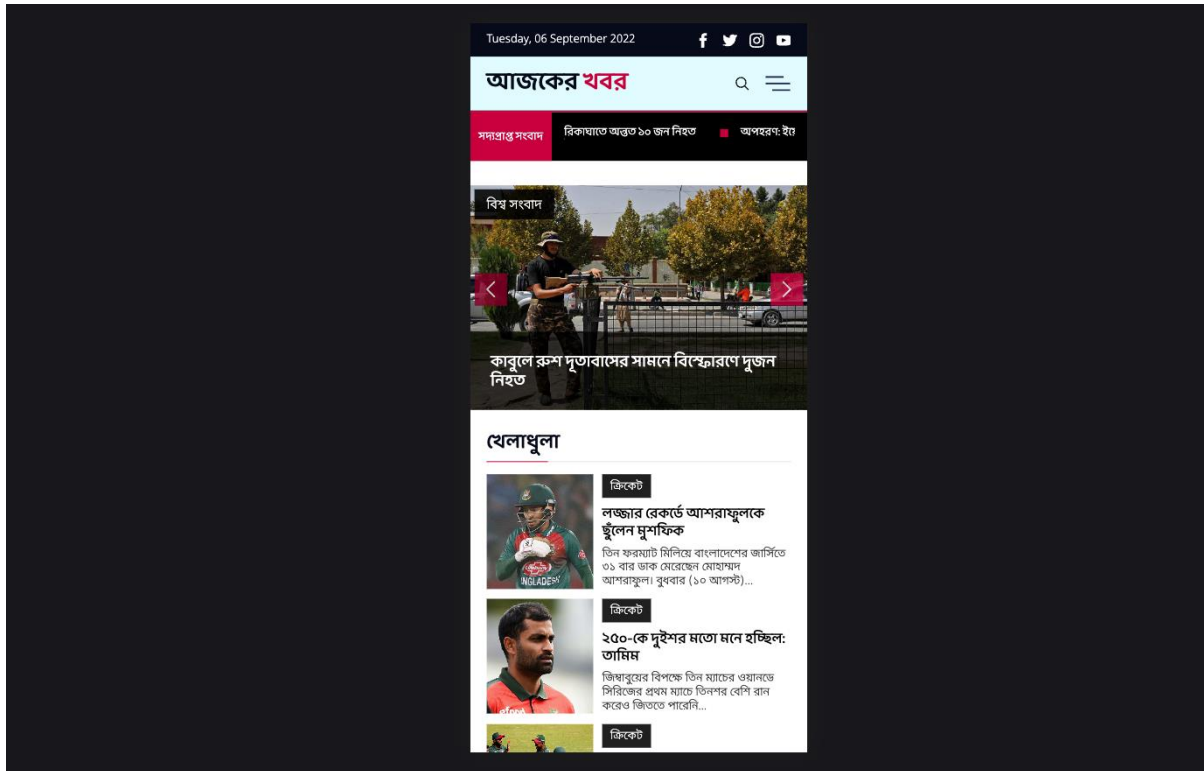


Fig. 4.12: Responsive Design

We use mobile-first responsive technology to responsive our website for mobile devices. We use media queries for the desktop to show the design of the desktop view. For the desktop view we use this:

That means our mobile view style is directly on the style.css file.

For our responsive mobile view, we create a menu for mobile with a JavaScript click event. When a user clicks on the menu bar the hidden menu expands.

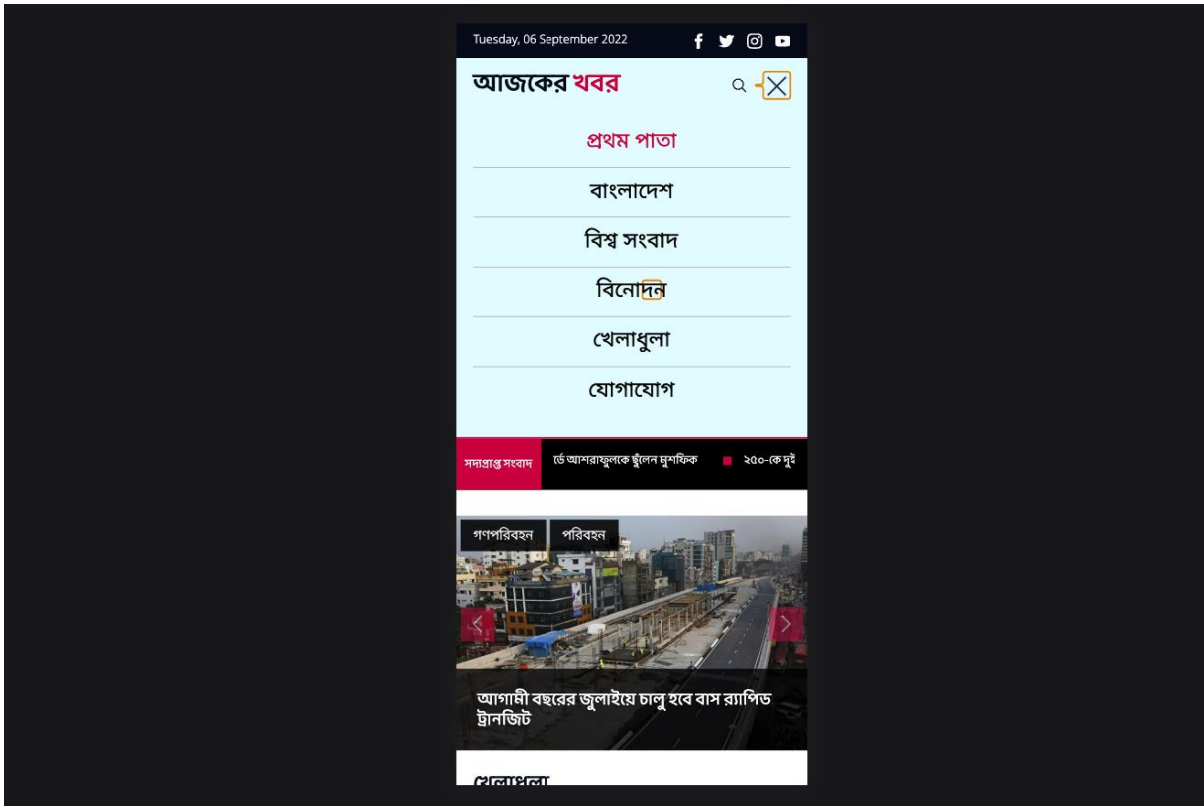


Fig. 4.13: Mobile Menu

CHAPTER 7

CONCLUSION AND FUTURE WORKS

7.1 Conclusion

After the end of research on the organization and the readers' participation in online media, it can be concluded that each and every media that feeds news to the people through an online platform should instill efficient platforms where readers' can air and interact directly with the organization, for example, the help-platform in the organization's website.

The use of online feeds will give the readers a one-on-one platform to air their opinions: satisfactions and dissatisfactions, and their views on various pieces of information.

For an efficient growth of the online Media, the readers should be allowed to be involved in the day-to-day running of the organization. The research also found out that news.com had involved their online readers a lot and this had been a major help to their immense growth in the past decade.

7.2 Future Works

The future scope of our project is valuable. Our project time duration was only one year. During this time interval, we developed our project. It was very difficult to complete the project within this time duration. In the future, if we get the chance we will develop this website for a large volume.

As for other future developments, the following can be done:

- We will manage the news updating system.
- We can make a subscription system.
- We update our database.
- We can add a weather update application.
- We can make a live sports system.
- We can add a magazine system.

REFERENCES

- [1] WordPress (WP, WordPress.org) is a free and open-source content management system (CMS) written in PHP and paired with MySQL [Online]. Available: <https://wordpress.org/download/>.
- [2] WordPress Theme Development [Online]. Available: https://codex.wordpress.org/Theme_Development.
- [3] Suhas Holla, Mahima M Katti, “Android Based Mobile Application Development and Its Security” International Journal of Computer Trends and Technology- volume3 Issue3- 2012.
- [4] Dunlu PENG, Lidong CAO, Wenjie XU, “Using JSON for Data Exchanging in Web Service Applications”, Journal of Computational Information Systems 7: 16 (2011) 5883-5890
- [5] Atul M.Gonsai and Rushi R. Raval, “Enhance the Interaction Between Mobile Users and Web Services using Cloud Computing”, Oriental Journal of Computer Science & Technology.