Objective:

- To provide user-friendly interface for patients
- To provide accurate, up-to-date information about the hospital's services, departments, doctors
- To implement an easy-to-use appointment booking system
- To provide emergency contact information for critical situations
- To ensure the website is responsive and accessible on various devices, including smartphones and tablets

Introduction:

An internet presence has become an essential asset for hospitals seeking to provide comprehensive care, streamline patient interactions, and extend their reach to the community they serve. Our website, a gateway to the digital world, offers an array of vital services and information designed to empower patients, and the community. From providing information about our dedicated medical professionals and specialized departments to offering transparent service fees, convenient appointment booking, essential diagnostics services, and the latest news and events, our website strives to be a beacon of accessible healthcare information.

Required Language/ Software:

- HTML
- CSS
- PHP
- Visual code studio

Proposed Website Design:
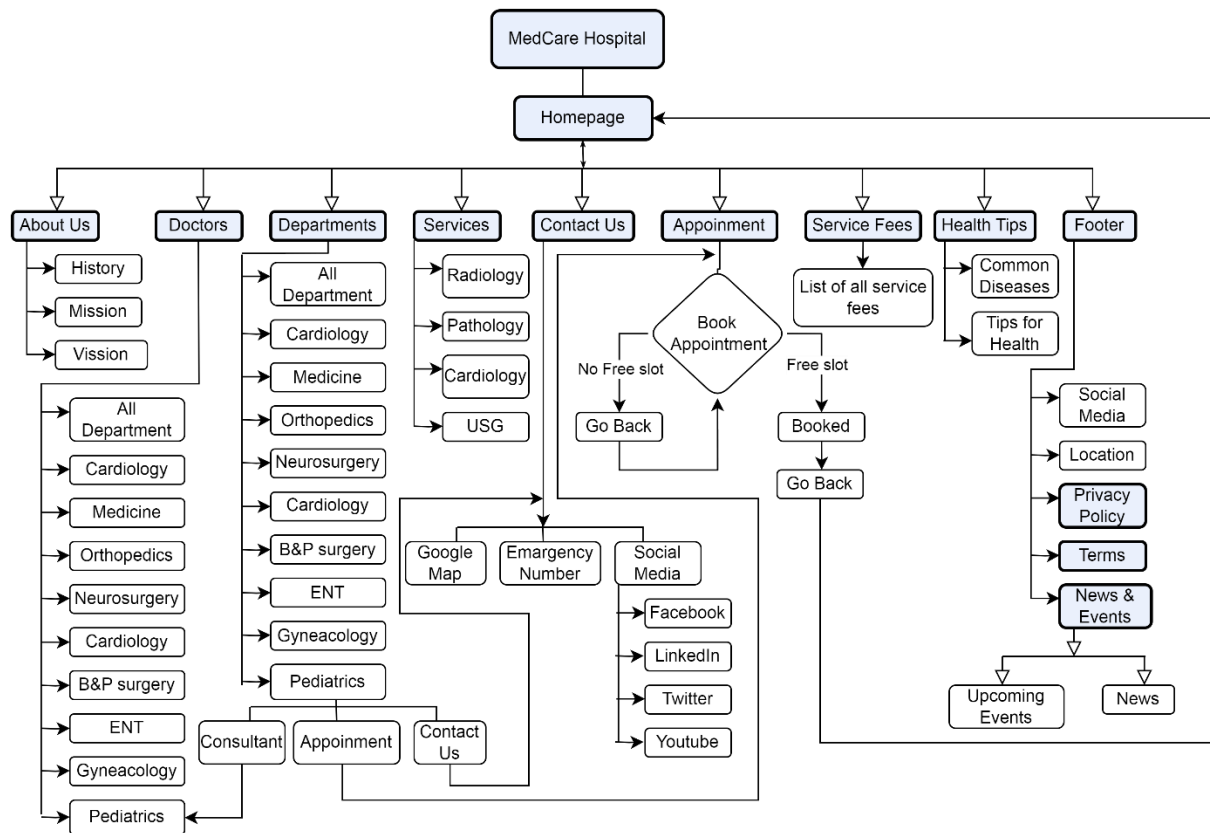
- ## Flow chart:

Figure 1: Flow-chart of the website

- ## Homepage:

Purpose: The home page serves as the main entry point to our website, providing an overview of what the hospital offers.

Functionality: It includes a welcoming message, images, and quick links to other sections such as about, doctors, appointment, departments etc. to help users navigate the site efficiently.

Enhances User Experience: It provides a user-friendly introduction and allows visitors to quickly find the information they need.
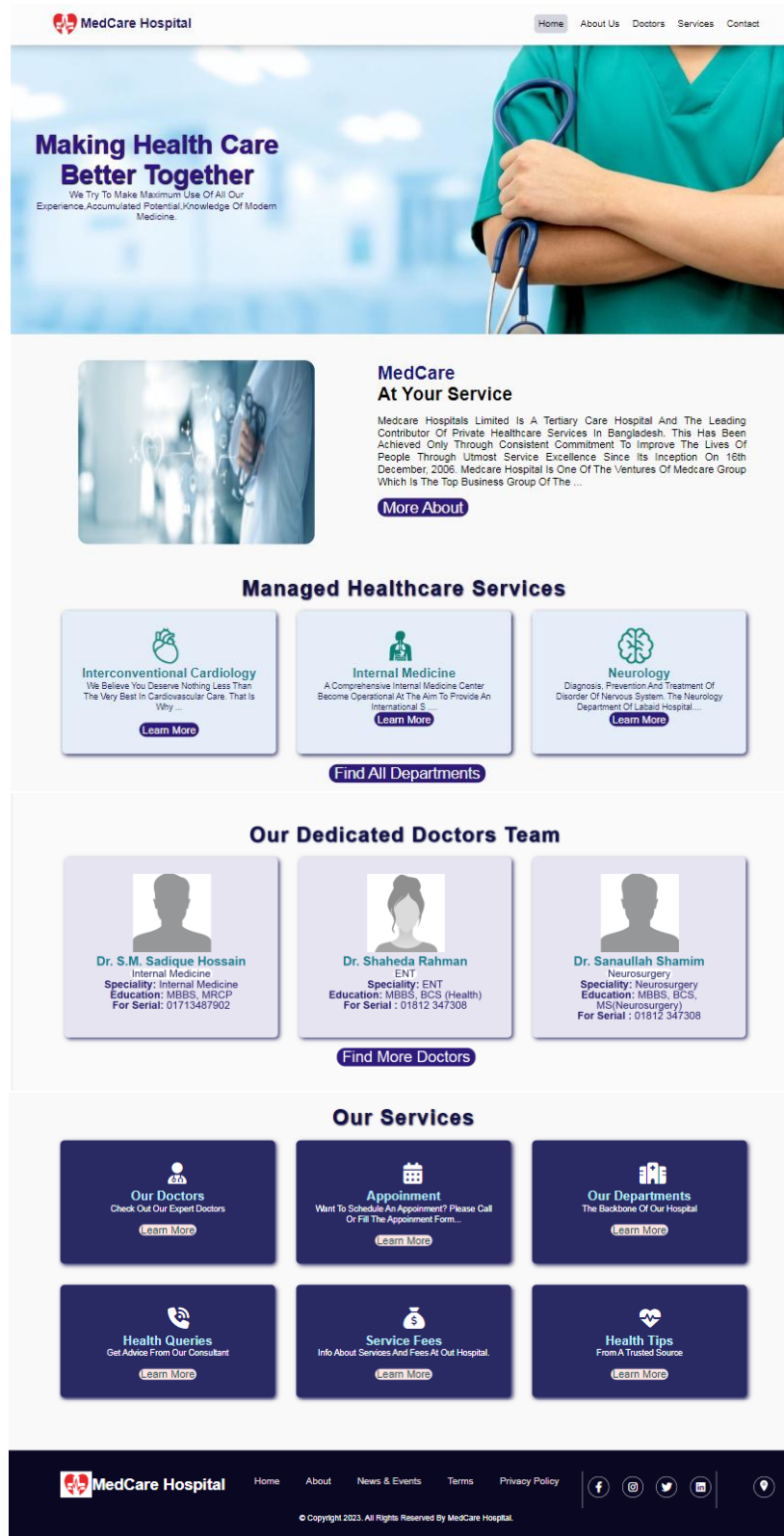
Figure 2: Homepage

Figure 3: Dropdown menu on Navigation Bar

- About Us:

     Purpose: This section introduces your hospital, its history, mission, visions.

     Functionality: This section gives insight into the hospital's goals and the principles that guide int operations.

     Enhances User Experience: Users can learn about our hospital's background and build trust in our services.
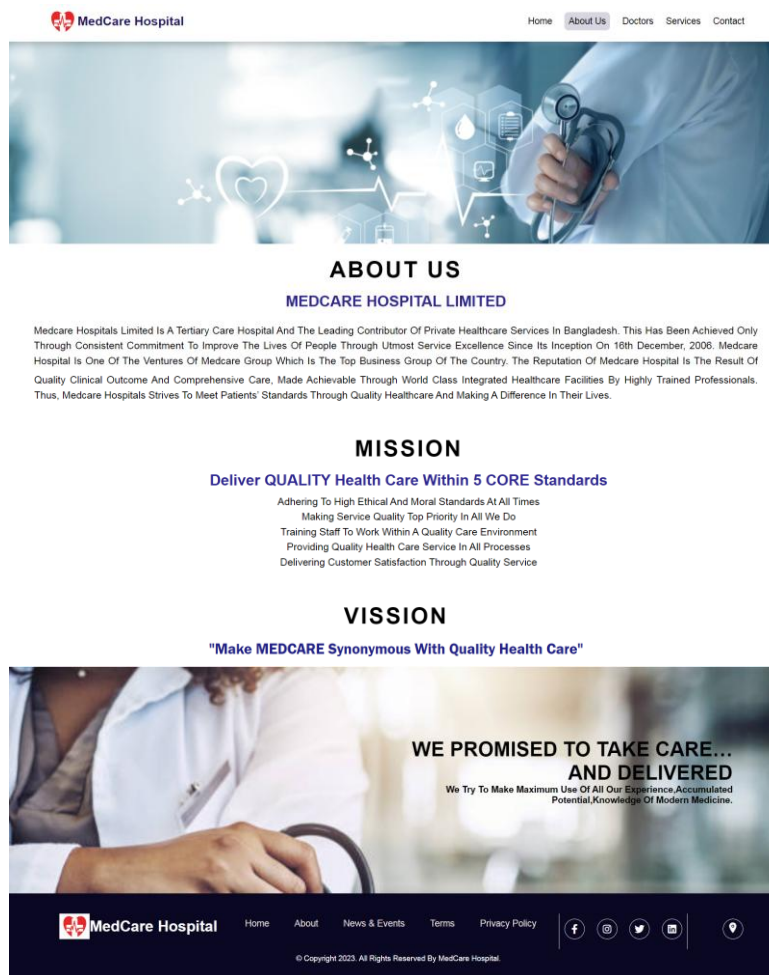

Figure 4: About Us Page

- Doctors:

  Purpose: To showcase the medical professionals working at our hospital.

  Functionality: Doctor's information are categorized department-wise in the section and each doctor's profile includes their qualifications, specialties, and contact information.

  Enhances User Experience: Users can access information about doctors who are experts in the particular medical field or department they are interested in, ensuring that they receive specialized care.
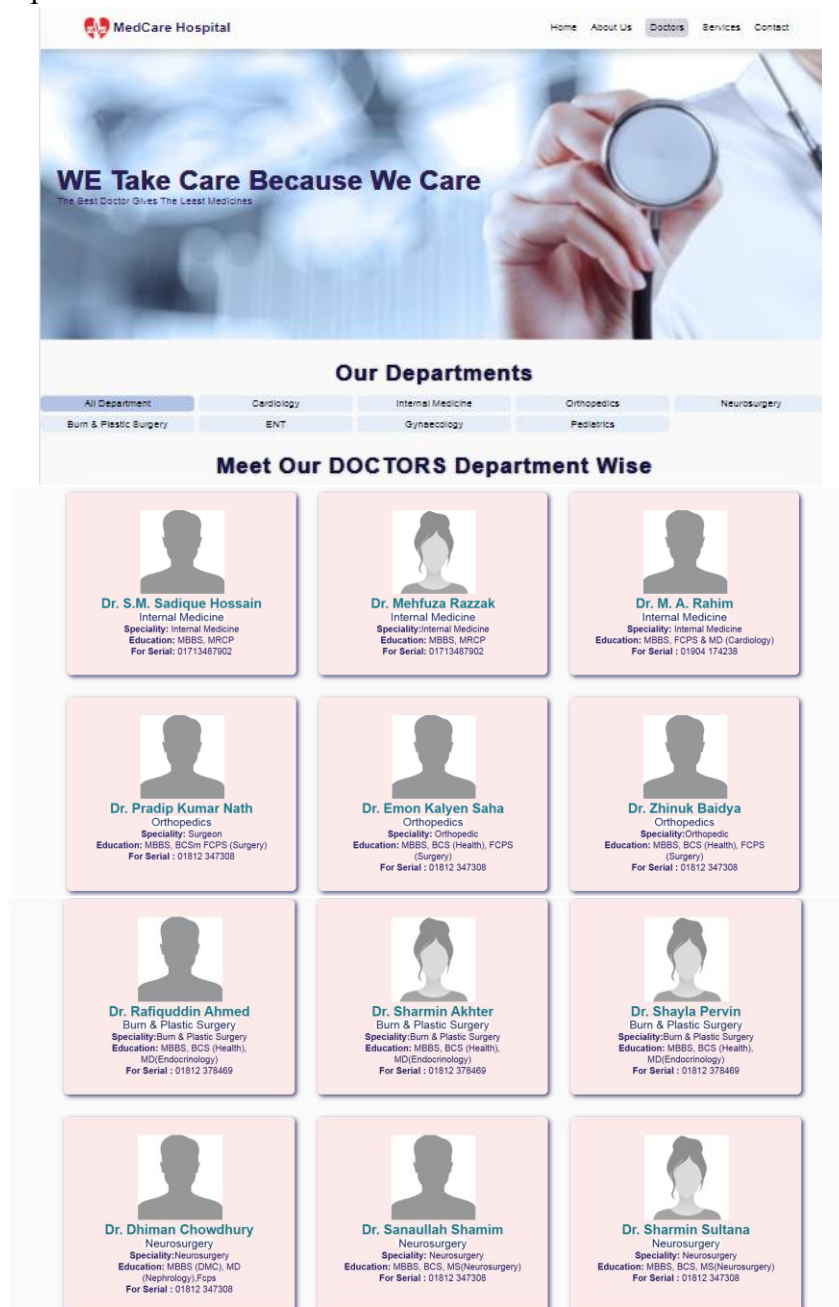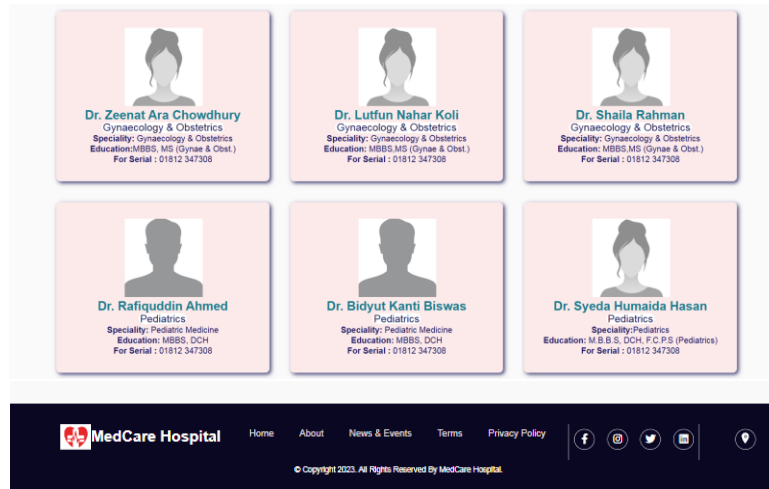
Figure 5: Doctors page (All Department)

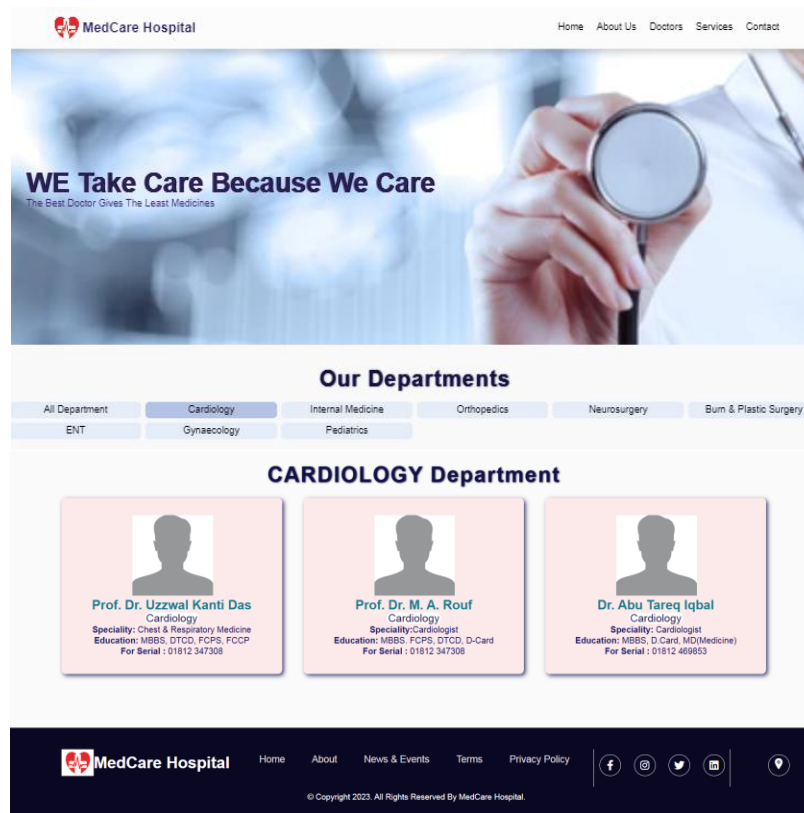- All the doctors information are categorized(department-wise) in the following manner :

Figure 6: Doctors page (Cardiology department)

- Departments (Internal Medicine, Neurology, Cardiology, Orthopedic, Pediatric, Gynecology, etc.):

    Purpose: This section provides details about the various departments available at our hospital.

Functionality: Provides detailed information about each department's services, facilities, specialists, available doctors in the respective department.

Enhances User Experience: Helps visitors quickly locate the department relevant to their health concerns easily, find doctors and book appointment.
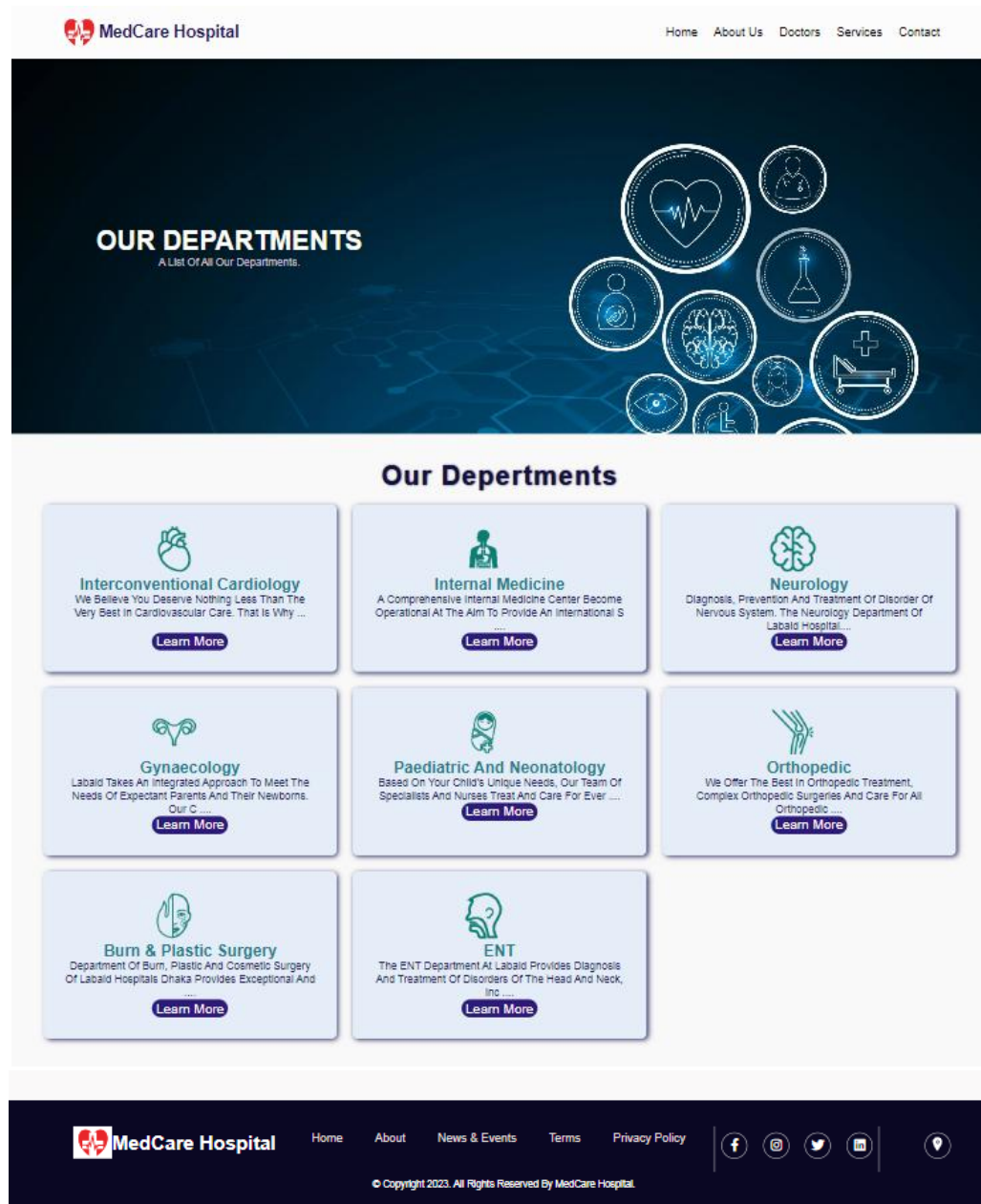

Figure 7: Departments page (All departments)

▪ All the departments information are portrayed in the website in the following manner:
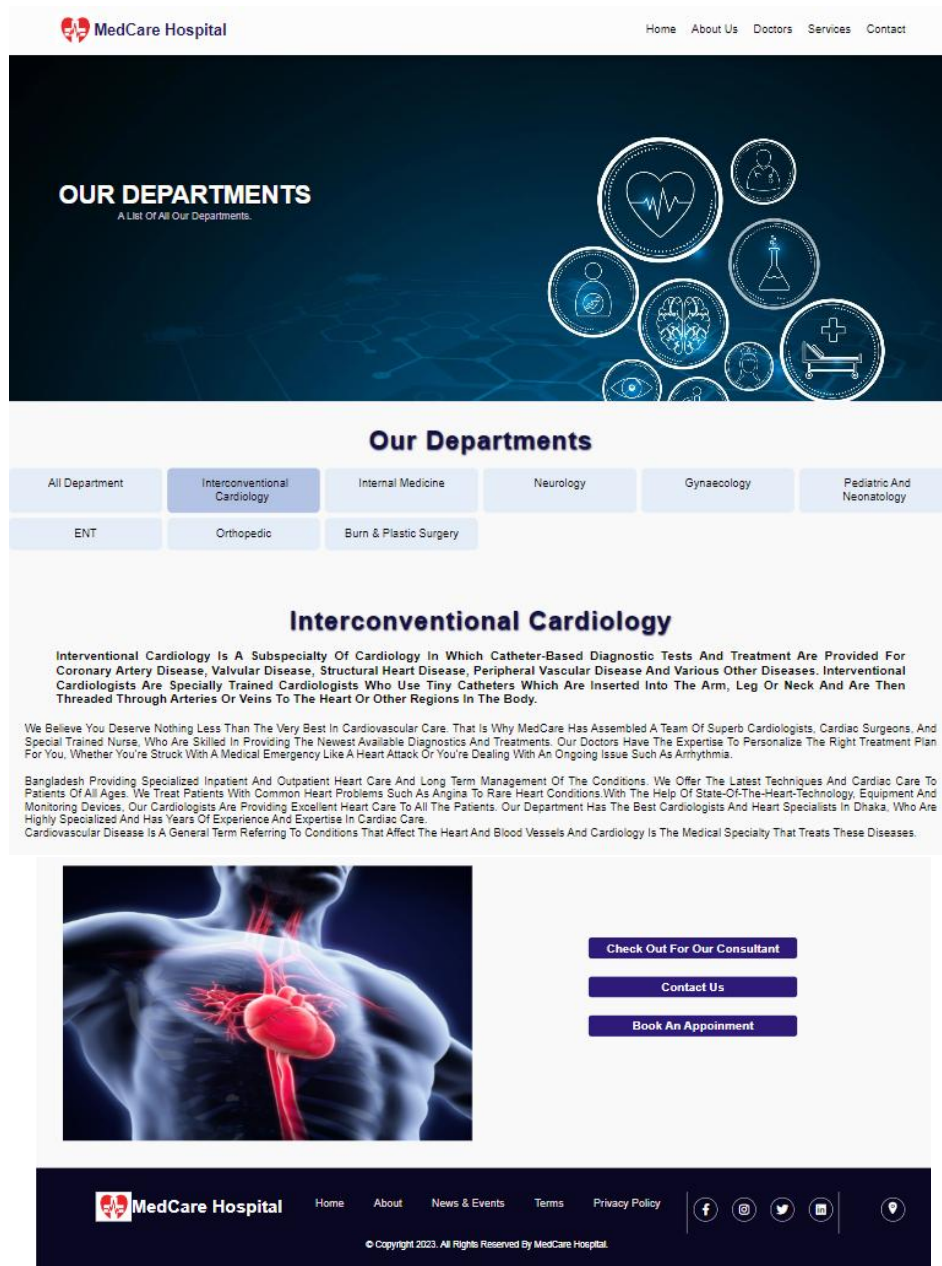
Figure 8: Specific Department's information(Interconventional Cardiology)

- Services (Pathology, Radiology, Cardiology, etc) :
  Purpose: Users can learn about the diagnostic and treatment services available at our hospital.

  Functionality: Includes descriptions of each service, benefits, and information on how to access them.

  Enhances User Experience: Users can easily understand what services are available and how they can benefit from them. They can also access guidelines on how to prepare for specific tests, such as fasting requirements or medication restrictions.

Figure 9: Diagnostic Service page

- Service Fees:

Purpose: To provide transparency by listing the fees associated with various medical services.

Functionality: Includes pricing details of the tests available in the hospital which can be found easily just by one click on our service areas.

Enhances User Experience: Users can access clear and detailed information about the costs associated with various medical services, tests offered by the hospital. This transparency allows patients to understand the financial aspects of their healthcare.

Figure 10: Service Fees page

- Appointment:

    Purpose: To allow users to schedule medical appointments online.

    Functionality: Users can select their preferred department, date, and time for their appointment. They also have to provide essential information and contact details.

    Enhances User Experience: Streamlines the appointment booking process, making it convenient for patients to secure medical consultations or treatments at their preferred time, reducing waiting times and improving overall accessibility to healthcare services.

Figure 11: Appointment Booking Page

Figure 12: Appointment booked (if time slot available)
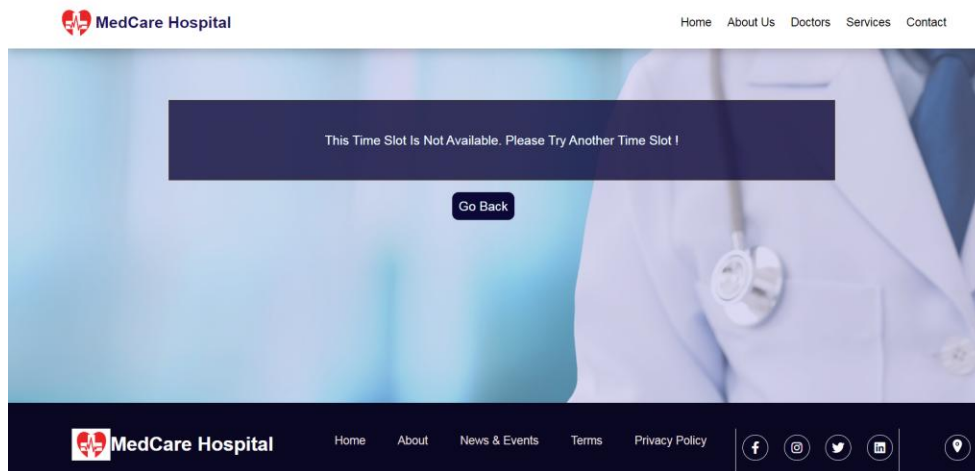
Figure 13: Appeared message (if time slot not available)

- Health Tips:

    Purpose: To make people aware of common diseases and share health and wellness tips, promoting overall well-being.

    Functionality: Includes causes, symptoms, treatment options, and preventive measure of the common diseases. Regularly updated tips and advice on maintaining a healthy lifestyle.

    Enhances User Experience: Users can find all information about diseases by just clicking on the name of the disease at a short time. And health tips encourages users to adopt healthier habits and engage with our website regularly.
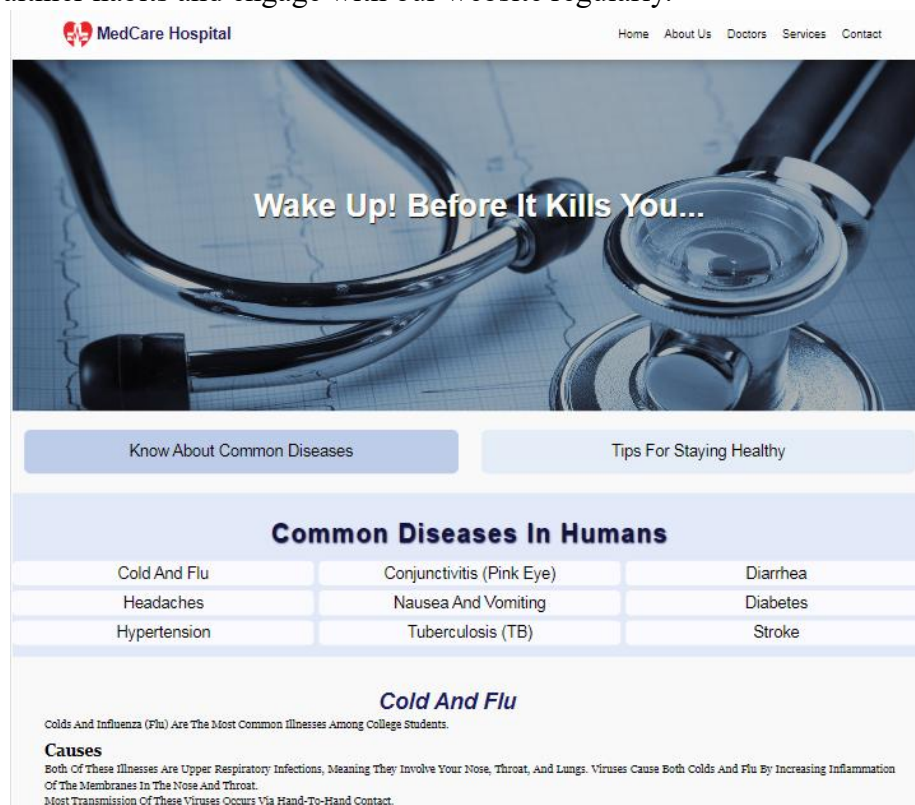
Symptomps

Flu Symptoms Come On Suddenly And Affect The Body All Over. Flu Symptoms Are Usually More Serious Than A Cold And Include:

- *Fever (100° F)*
- *Headache*
- *More Intense Pain And Fatigue*
- *More Severe, Often Dry Cough*

You May Also Experience A Mild Headache, Body Aches Or A Low Grade Fever. Typically, A Cold Lasts 2-14 Days.

Treatment

If Any Problem Is Causing You Discomfort, You Should Seek Medical Care. Seek Medical Attention Promptly If You Have:

- *A Fever Of 102° F Or Greater (Which May Indicate A More Serious Infection)*
- *A Persisting Cough, Especially With A Significant Fever (Which Could Indicate Pneumonia)*
- *A Persistent Sore Throat (Especially If Runny Nose Does Not Develop - Which Could Indicate A Strep Infection)*
- *Any Cold Lasting More Than 10 Days*

Prevention

The Flu Is Probably Only Contagious During The First Three Days Of Illness, And The Incubation Period Is 24-72 Hours, Meaning You Might Not Show Symptoms For Three Days After Contracting The Virus. It Is Rare To Catch A Cold Virus Through The Air – Most Transmission Occurs Via Hand-To-Hand Contact. To Prevent Colds, Flu, And Other Illnesses, Follow These Tips:

- *Wash Your Hands Often (Which Is Good Advice For Keeping Healthy In Any Situation). Keep Them Away From Your Nose, Eyes, And Mouth. Use An Instant Hand Sanitizer When You Can't Wash Your Hands.*
- *Get Regular Exercise And Eat Well.*
- *Follow Good Sleep Habits.*
- *Get A Flu Shot Each Fall (Offered To All Students At A Lower Cost By UHS Each Fall)*

Conjunctivitis

Causes

Conjunctivitis, An Inflammation Of The Transparent Membrane (Conjunctiva) That Lines Your Eyelids And Part Of Your Eyeballs, Has Several Possible Causes. It Could Be A Bacterial Or Viral Infection, An Allergic Reaction To Pollen Or Animal Dander, Or A Result Of Chemical Irritants (Smoke, Chlorine, Lens Solution, Etc.).

Symptomps

These Symptoms May Last A Few Hours To Several Weeks: Redness, Itching, Tearing, Burning Sensation, Pus-Like Discharge And/Or Crusting Of The Eyelids. Because Conjunctivitis Causes Inflammation Of The Small Blood Vessels In The Conjunctiva To Become More Prominent, The Whites Of Your Eyes Will Appear Pink Or Red. When You Wake You Are Likely To Feel That Your Eyelids Are Pasted Shut, And Your Vision May Not Be As Clear As Usual.

Treatment

Because Pink Eye Is Highly Contagious, Early Diagnosis Is Important. Bacterial Cases Can Be Cured With Antibiotic Eye Drops, Viral Conjunctivitis Clears Up On Its Own, And Allergic Reactions Can Be Treated With Various Types Of Eye Drops. Here Are Some General Tips:

- *Wash Your Hands Frequently To Prevent Spreading An Existing Infection To Your Other Eye, And To Other People.*
- *Don't Rub Your Eyes.*
- *Use A Cool Wet Washcloth To Soak Off Any Crusting*
- *Use A Warm Or Cool Compress To Reduce Discomfort.*
- *Discard Eye Make-Up Because It May Cause Future Infection.*
- *Wash Any Clothing That May Be Contaminated, Including Towels And Pillowcases. Try To Use Clean Towels And Pillowcases Everyday.*
- *Avoid Wearing Contact Lenses And Discard Current Lenses.*
- *If Eye Drops Are Prescribed, Place Drop In Pocket Formed By Pulling Down Lower Lid. Make Sure You Don't Touch The Bottle To The Eye In Order To Prevent Contamination.*

Prevention

Pink Eye Is Extremely Contagious, So If You Know Someone Who Is Infected, Make Sure You Do Not Expose Yourself To Contact With The Person's Eye Fluid. The Infection Can Easily Be Passed Via Keyboards, Doorknobs, Make-Up, Pens, Gym Equipment, And A Vast Number Of Other Items. To Protect Yourself, Wash Your Hands Frequently, Avoid Touching Your Eyes, And Wash Anything That May Be Contaminated.

Diarrhea

Causes

- *Bacterial Infection, Caused By Contaminated Food Or Water*
- *Viral Infection*
- *Parasites, Which Can Enter The Body Through Food Or Water*
- *Food Intolerance, Such As The Inability To Digest Lactose, The Sugar In Milk*
- *Overuse Of Alcohol Or Laxatives*
- *Medication, Such As Some Antibiotics Or Antacids Containing Magnesium*

Symptomps

- *Watery, Loose Stools*
- *Frequent Bowel Movements*
- *Cramping Or Pain In The Abdomen, Nausea, Bloating*
- *Possibly Fever Or Bloody Stools, Depending On The Cause*

Treatment

Usually Diarrhea Will Clear Up On Its Own In A Day Or Two, But A Prolonged Case May Cause Complications. The Most Important Concern Is Dehydration. If You Have Symptoms Of Dehydration, A Fever Above 102° F, Bloody Stools (Black And Tarry), Severe Abdomen Or Rectum Pain, Or Diarrhea Lasting More Than 3 Days You Should Consult A Physician. Here's Some Advice For Taking Care Of Diarrhea Yourself:

- *Avoid Foods That Are Milk-Based, Greasy, High-Fiber, Or Very Sweet Because These Are Likely To Aggravate Diarrhea.*
- *Do Not Eat Solid Food If You Have Signs Of Dehydration (Thirst, Light-Headed, Dark Urine). Instead, Drink About 2 Cups Of Clear Fluids Per Hour (If Vomiting Isn't Present), Such As Sports Drinks And Broth. Water Alone Is Not Enough Because Your Body Needs Sodium And Sugar To Replace What It's Losing.*
- *Avoid High Sugar Drinks, Like Apple Juice, Grape Juice, And Soda, Which Can Pull Water Into The Intestine And Make The Diarrhea Persist.*
- *Over-The-Counter Drugs, Such As Imodium A-D, Should Only Be Used If Absolutely Necessary Because It Is Important To Let Diarrhea Flush Out The Bacteria Or Parasite That's Causing The Infection.*

Tuberculosis (TB)

Tuberculosis (TB) Is A Contagious Infection That Usually Attacks Your Lungs. It Can Also Spread To Other Parts Of Your Body, Like Your Brain And Spine.

Causes
Tuberculosis Is Caused By Bacteria That Spread Through The Air, Just Like A Cold Or The Flu. You Can Get TB Only If You Come Into Contact With People Who Have It.

Symptomps
Latent TB Doesn't Have Symptoms. A Skin Or Blood Test Can Tell You If You Have It. Signs Of Active TB Disease Include:
- *A Cough That Lasts More Than 3 Weeks*
- *Chest Pain*
- *Coughing Up Blood*
- *Feeling Tired All The Time*
- *Night Sweats*
- *Loss Of Appetite*
- *Weight Loss*

If You Have Any Of These Symptoms, See Your Doctor To Get Tested. Get Medical Help Right Away If You Have Chest Pain.

Treatment
Your Treatment Will Depend On Your Infection.
- *If You Have Latent TB, Your Doctor Will Give You Medication To Kill The Bacteria So The Infection Doesn't Become Active. You Might Get Isoniazid, Rifapentine, Or Rifampin, Either Alone Or Combined. You'll Have To Take The Drugs For Up To 9 Months. If You See Any Signs Of Active TB, Call Your Doctor Right Away.*
- *A Combination Of Medicines Also Treats Active TB. The Most Common Are Ethambutol, Isoniazid, Pyrazinamide, And Rifampin. You'll Take Them For 6 To 12 Months.*
- *If You Have Drug-Resistant TB, Your Doctor Might Give You One Or More Different Medicines. You May Have To Take Them For Much Longer, Up To 30 Months, And They Can Cause More Side Effects.*

Prevention
To Help Stop The Spread Of TB:
- *If You Have A Latent Infection, Take All Of Your Medication So It Doesn't Become Active And Contagious.*
- *If You Have Active TB, Limit Your Contact With Other People. Cover Your Mouth When You Laugh, Sneeze, Or Cough. Wear A Surgical Mask When You're Around Other People During The First Weeks Of Treatment.*
- *If You're Traveling To A Place Where TB Is Common, Avoid Spending A Lot Of Time In Crowded Places With Sick People.*

Stroke

A Stroke Is A Medical Emergency, And Prompt Treatment Is Crucial. Early Action Can Reduce Brain Damage And Other Complications.

Causes
There Are Two Main Causes Of Stroke: A Blocked Artery (Ischemic Stroke) Or Leaking Or Bursting Of A Blood Vessel (Hemorrhagic Stroke). Some People May Have Only A Temporary Disruption Of Blood Flow To The Brain, Known As A Transient Ischemic Attack (TIA), That Doesn't Cause Lasting Symptoms.

Symptomps
If You Or Someone You're With May Be Having A Stroke, Pay Particular Attention To The Time The Symptoms Began. Some Treatment Options Are Most Effective When Given Soon After A Stroke Begins.Signs And Symptoms Of Stroke Include:
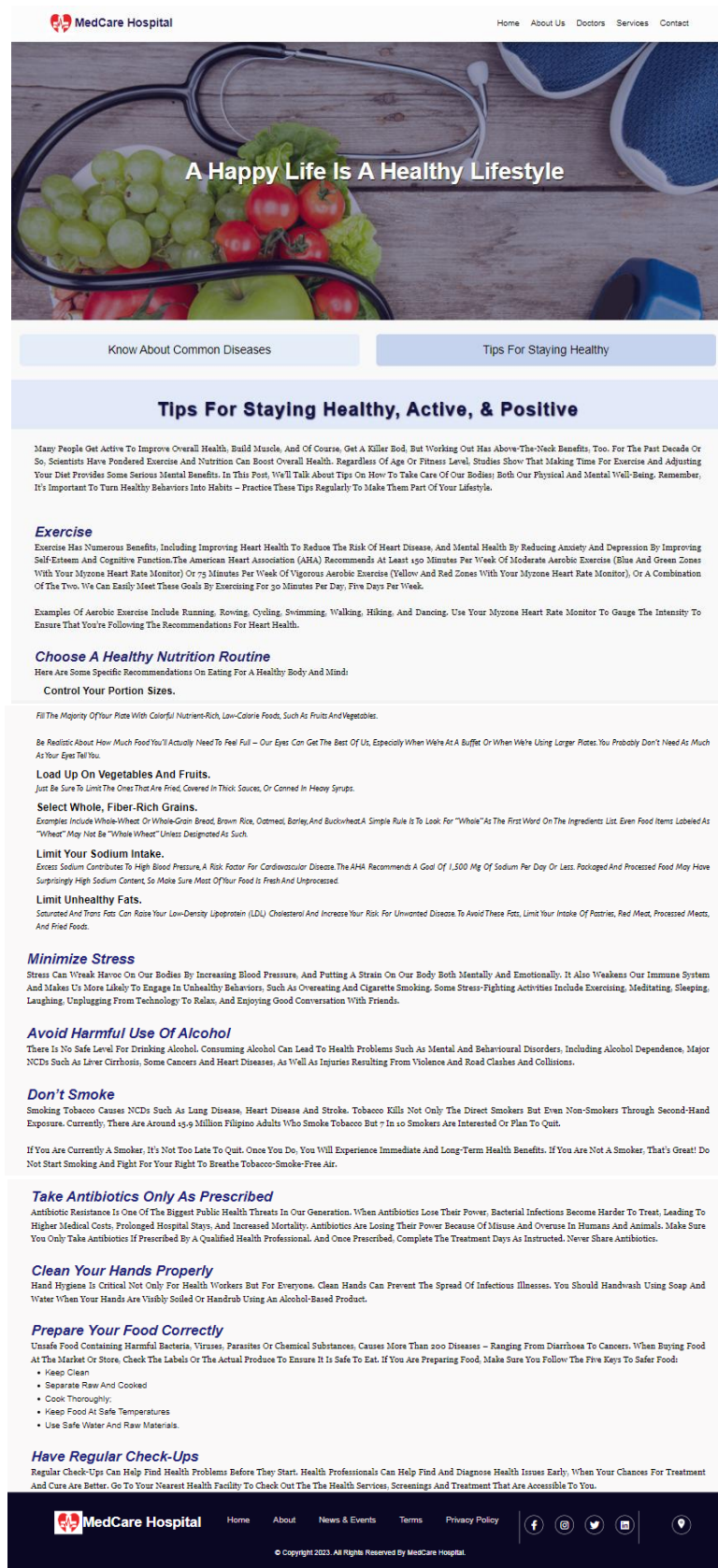- *Trouble Speaking And Understanding What Others Are Saying.   You May Experience Confusion, Slur Words Or Have Difficulty Understanding Speech.*
- *Paralysis Or Numbness Of The Face, Arm Or Leg.   You May Develop Sudden Numbness, Weakness Or Paralysis In The Face, Arm Or Leg. This Often Affects Just One Side Of The Body. Try To Raise Both Your Arms Over Your Head At The Same Time. If One Arm Begins To Fall, You May Be Having A Stroke. Also, One Side Of Your Mouth May Droop When You Try To Smile.*
- *Problems Seeing In One Or Both Eyes.   You May Suddenly Have Blurred Or Blackened Vision In One Or Both Eyes, Or You May See Double.*
- *Headache.   A Sudden, Severe Headache, Which May Be Accompanied By Vomiting, Dizziness Or Altered Consciousness, May Indicate That You're Having A Stroke.*

Treatment
Emergency Treatment For Stroke Depends On Whether You're Having An Ischemic Stroke Or A Stroke That Involves Bleeding Into The Brain (Hemorrhagic).
- *Emergency IV Medication.   Therapy With Drugs That Can Break Up A Clot Has To Be Given Within 4.5 Hours From When Symptoms First Started If Given Intravenously. The Sooner These Drugs Are Given, The Better. Quick Treatment Not Only Improves Your Chances Of Survival But Also May Reduce Complications. An IV Injection Of Recombinant Tissue Plasminogen Activator (TPA) — Also Called Alteplase (Activase) Or Tenecteplase (TNKase) — Is The Gold Standard Treatment For Ischemic Stroke. An Injection Of TPA Is Usually Given Through A Vein In The Arm Within The First Three Hours. Sometimes, TPA Can Be Given Up To 4.5 Hours After Stroke Symptoms Started.*
- *Emergency Endovascular Procedures.   Doctors Sometimes Treat Ischemic Strokes Directly Inside The Blocked Blood Vessel. Endovascular Therapy Has Been Shown To Significantly Improve Outcomes And Reduce Long-Term Disability After Ischemic Stroke.*
- *Carotid Endarterectomy.   Carotid Arteries Are The Blood Vessels That Run Along Each Side Of The Neck, Supplying The Brain (Carotid Arteries) With Blood. This Surgery Removes The Plaque Blocking A Carotid Artery And May Reduce The Risk Of Ischemic Stroke. A Carotid Endarterectomy Also Involves Risks, Especially For People With Heart Disease Or Other Medical Conditions.*
- *Surgery.   If The Area Of Bleeding Is Large, Your Doctor May Perform Surgery To Remove The Blood And Relieve Pressure On The Brain. Surgery May Also Be Used To Repair Blood Vessel Problems Associated With Hemorrhagic Strokes. Your Doctor May Recommend One Of These Procedures After A Stroke Or If An Aneurysm, Arteriovenous Malformation (AVM) Or Other Type Of Blood Vessel Problem Caused The Hemorrhagic Stroke.*

Prevention
You Can Help Prevent Stroke By Making Healthy Choices And Controlling Any Health Conditions You May Have.
- *Healthy Living .   Many Strokes Could Be Prevented Through Healthy Lifestyle Changes And Working With Your Health Care Team To Control Health Conditions That Raise Your Risk For Stroke.You Can Help Prevent Stroke By Making Healthy Lifestyle Choices.*
- *Choose Healthy Foods And Drinks.   Choosing Healthy Meal And Snack Options Can Help You Prevent Stroke. Be Sure To Eat Plenty Of Fresh Fruits And Vegetables.Eating Foods Low In Saturated Fats, Trans Fat, And Cholesterol And High In Fiber Can Help Prevent High Cholesterol. Limiting Salt (Sodium) In Your Diet Can Also Lower Your Blood Pressure. High Cholesterol And High Blood Pressure Increase Your Chances Of Having A Stroke.*
- *Keep A Healthy Weight.   Having Overweight Or Obesity Increases Your Risk For Stroke. To Determine Whether Your Weight Is In A Healthy Range, Doctors Often Calculate Your Body Mass Index (BMI). If You Know Your Weight And Height, You Can Calculate Your BMI At CDC's Assessing Your Weight Website. Doctors Sometimes Also Use Waist And Hip Measurements To Measure Excess Body Fat.*
- *Don't Smoke.   Cigarette Smoking Greatly Increases Your Chances Of Having A Stroke. If You Don't Smoke, Don't Start. If You Do Smoke, Quitting Will Lower Your Risk For Stroke. Your Doctor Can Suggest Ways To Help You Quit.*
- *Limit Alcohol.   Avoid Drinking Too Much Alcohol, Which Can Raise Your Blood Pressure. Men Should Have No More Than Two Drinks Per Day, And Women Should Have No More Than One Per Day.*
- *Control Your Medical Conditions.   Talk With Your Doctor About Steps You Can Take To Lower Your Risk For Stroke. If You Have Heart Disease, High Cholesterol, High Blood Pressure, Or Diabetes, You Can Take Steps To Lower Your Risk For Stroke.*
- *Check Cholesterol.   Your Doctor Should Test Your Cholesterol Levels At Least Once Every 5 Years. Talk With Your Health Care Team About This Simple Blood Test. If You Have High Cholesterol, Medicine And Lifestyle Changes Can Help Lower Your Risk For Stroke.*
- *Control Blood Pressure.   High Blood Pressure Usually Has No Symptoms, So Be Sure To Have It Checked On A Regular Basis. Talk To Your Health Care Team About How Often You Should Check Your Levels. You Can Check Your Blood Pressure At Home, At A Doctor's Office, Or At A Pharmacy.*
- *Control Diabetes.   If Your Doctor Thinks You Have Symptoms Of Diabetes, He Or She May Recommend That You Get Tested. If You Have Diabetes, Check Your Blood Sugar Levels Regularly. Talk With Your Health Care Team About Treatment Options. Your Doctor May Recommend Certain Lifestyle Changes, Such As Getting More Physical Activity Or Choosing Healthier Foods. These Actions Will Help Keep Your Blood Sugar Under Good Control And Help Lower Your Risk For Stroke.*

MedCare Hospital   Home   About   News & Events   Terms   Privacy Policy

Figure 14: Health diseases page

Figure 15: Health tips page

- ## News and Events:

  Purpose: To keep users informed about hospital news, events, and community involvement.

  Functionality: Posts news articles, event announcements, and relevant news.

  Enhances User Experience: Creates engagement and connection of users with the hospital's activities and community involvement and make the users well informed about new medical technologies and achievements.
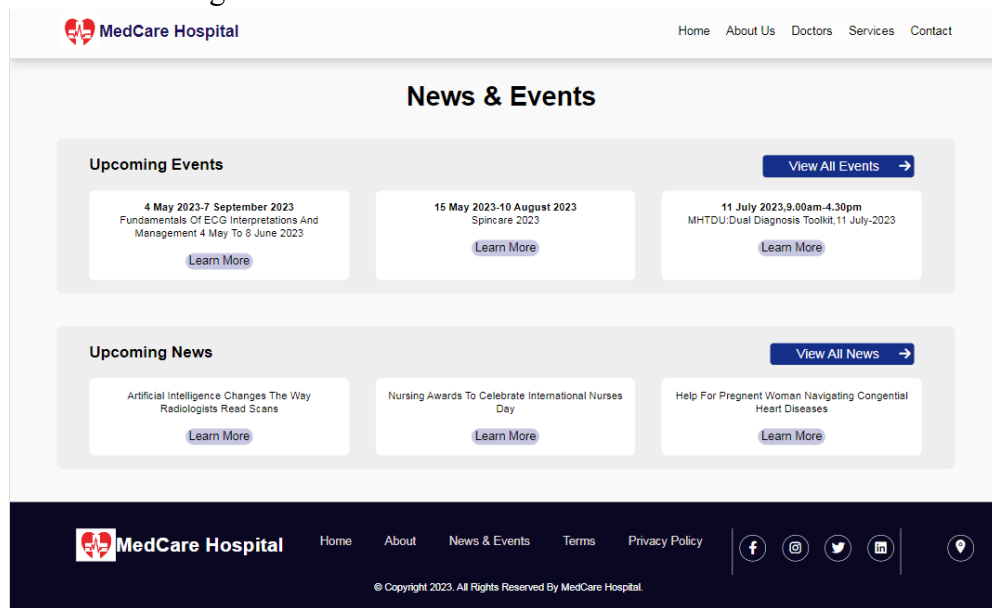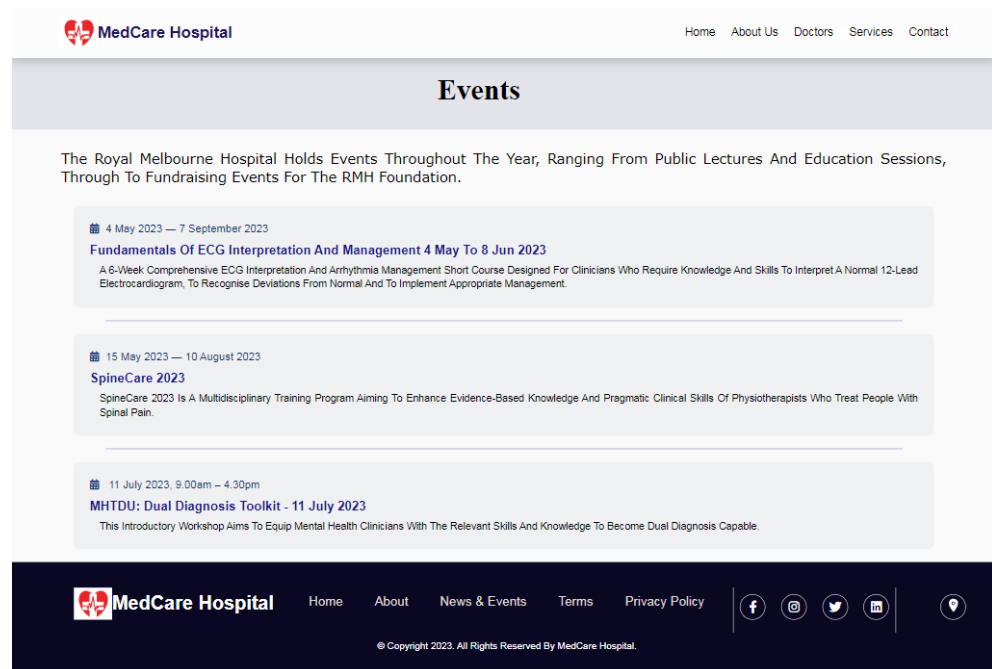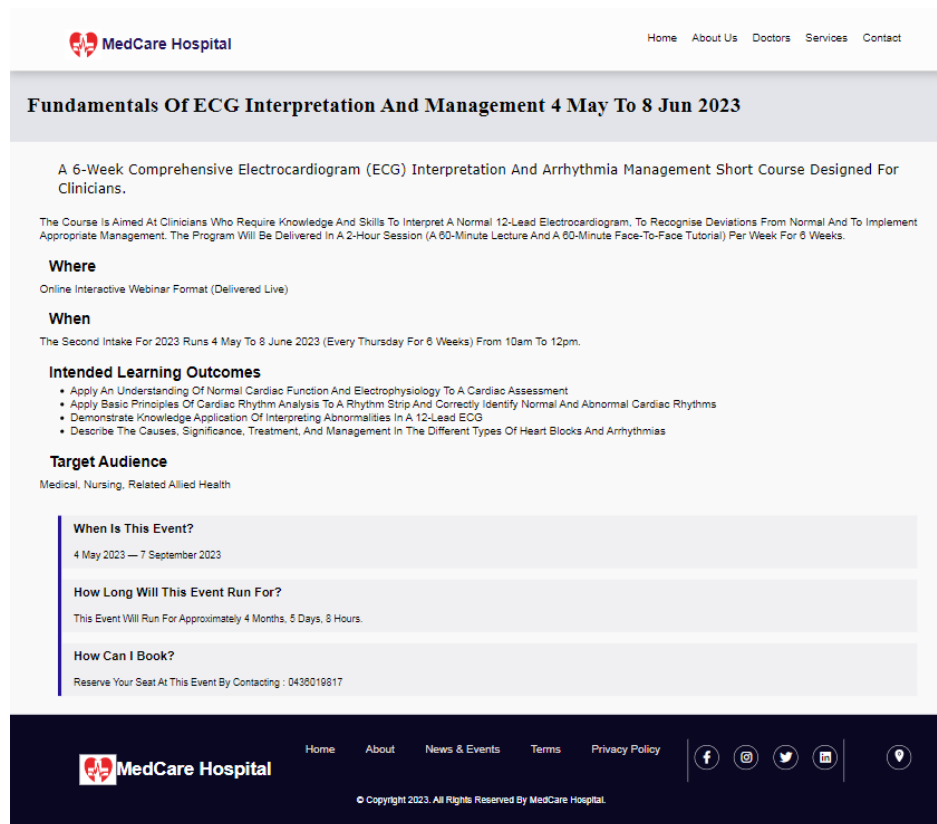

Figure 16: News & Events page

Figure 17: All Events page

Figure 18: Event description page
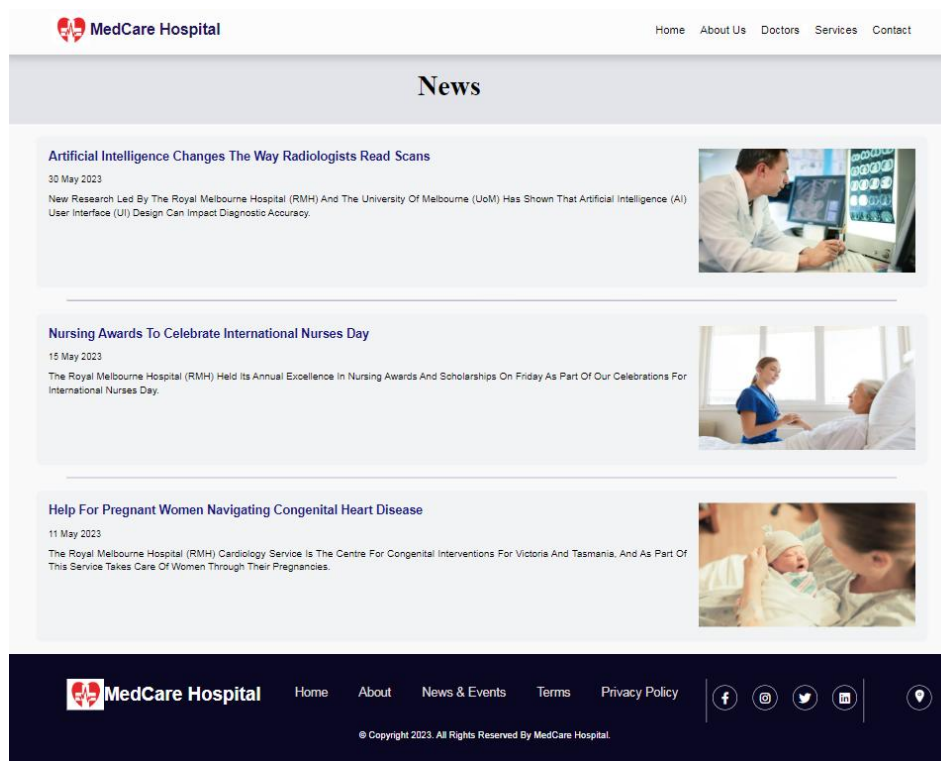
Figure 19: All News page
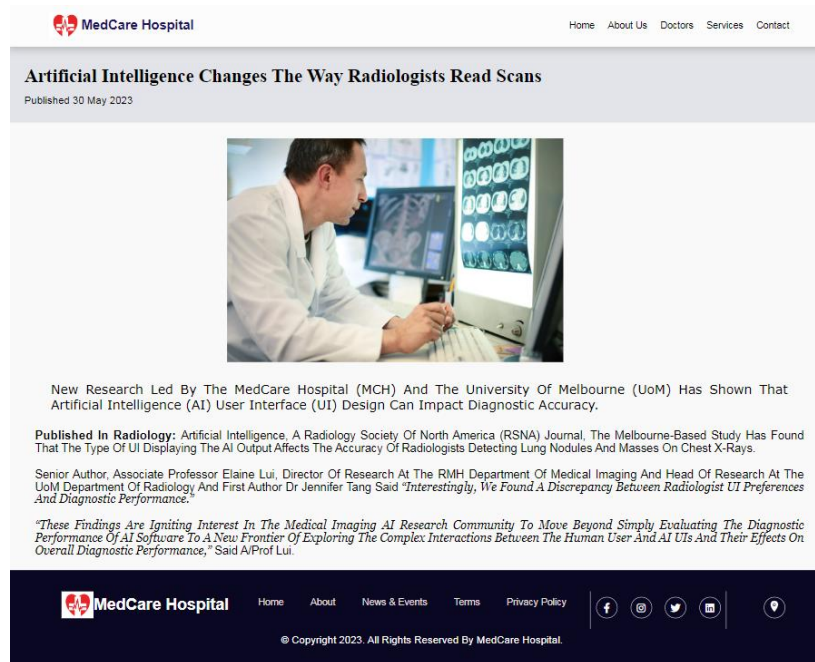
Figure 20: News Description page

- Contact Us/ Health Queries:

Purpose: To provide contact information for inquiries, appointments ,ambulance service and hotline number .

Functionality: Includes different social media link of hospital , phone numbers, and a location map.

Enhances User Experience: Users can easily find essential contact information in one place. Google Maps integration makes it convenient for patients and visitors to plan their visits and find directions.
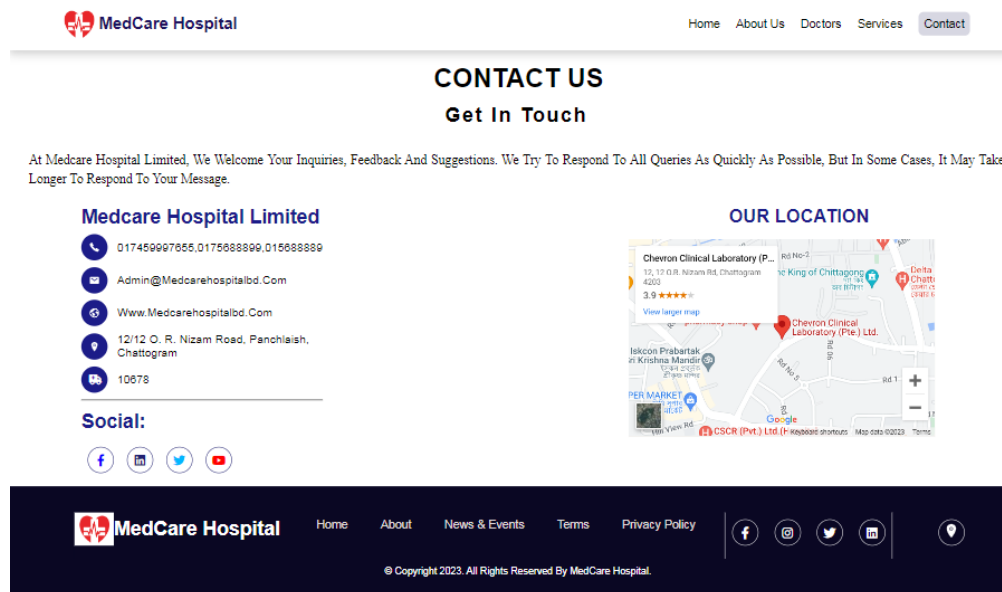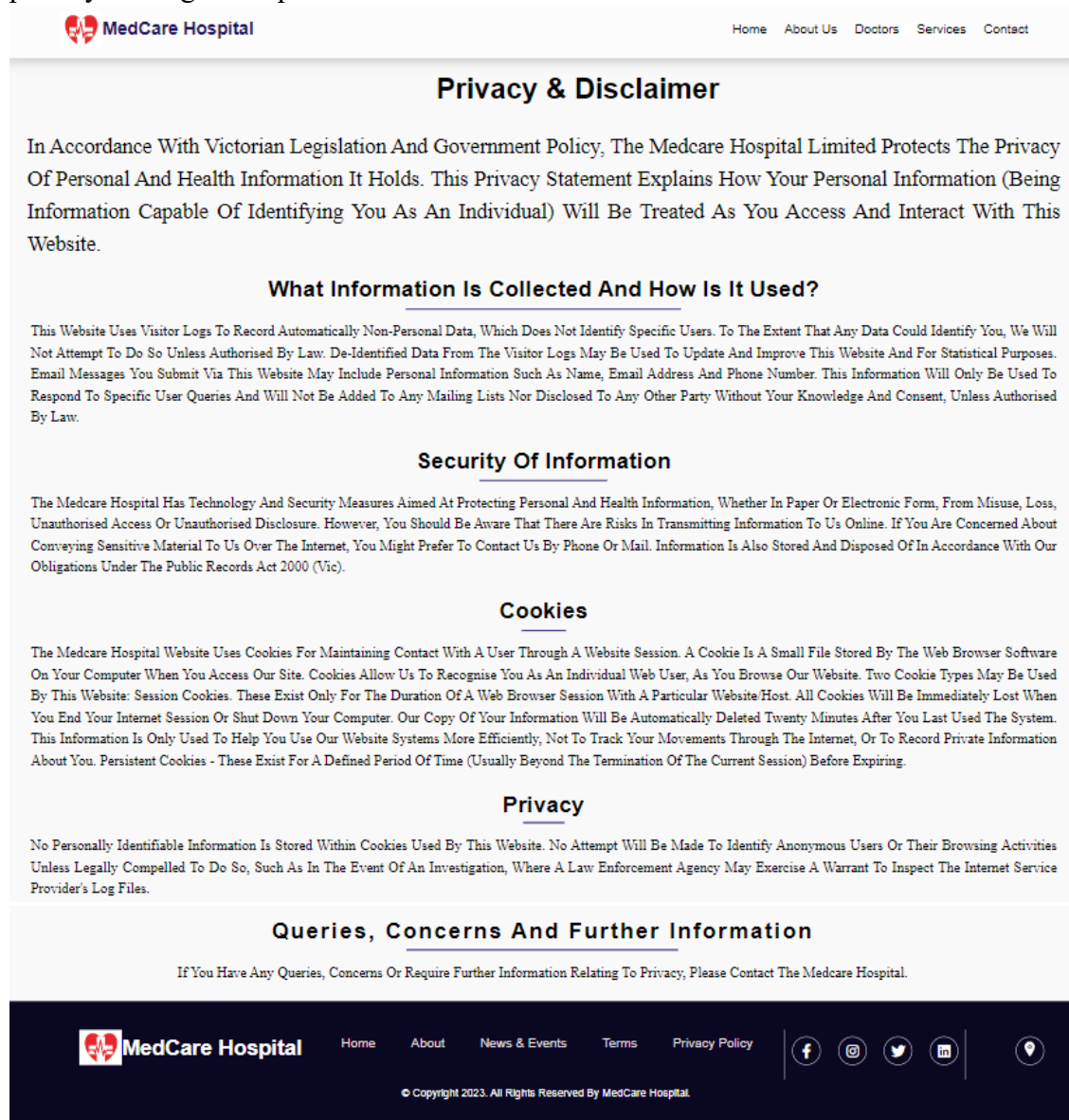
Figure 21: Contact Us page

- Privacy, Terms, and Conditions:

    Purpose: To present the hospital's privacy policy and terms of service to users.

    Functionality: Includes security of information, cookies, privacy, agreement, license, general disclaimer etc.

    Enhances User Experience: Users can know the hospital's commitment to them , privacy and legal compliance.

Figure 22: Privacy policy page

Figure 23: Terms page

Database (PHP, MySQL):

For dynamic performance of our website, we have connected database with our frontend.

- We have included database in Appointment booking page to store the information of the users.

Figure 24: Appointment Database

- Responsive:

We have also made our website responsive so that it is accessible on various devices, including smartphones and tablets.
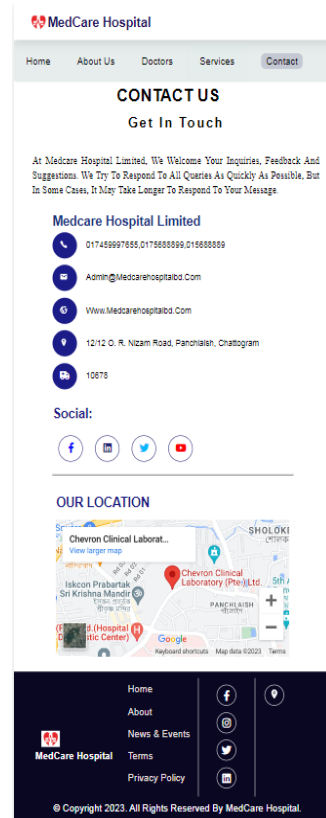

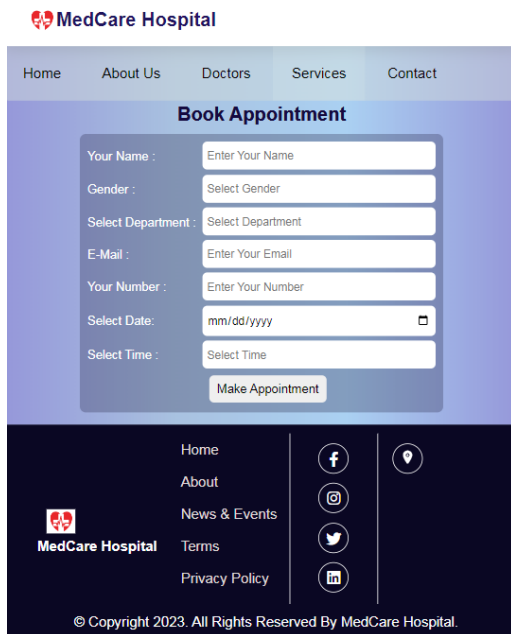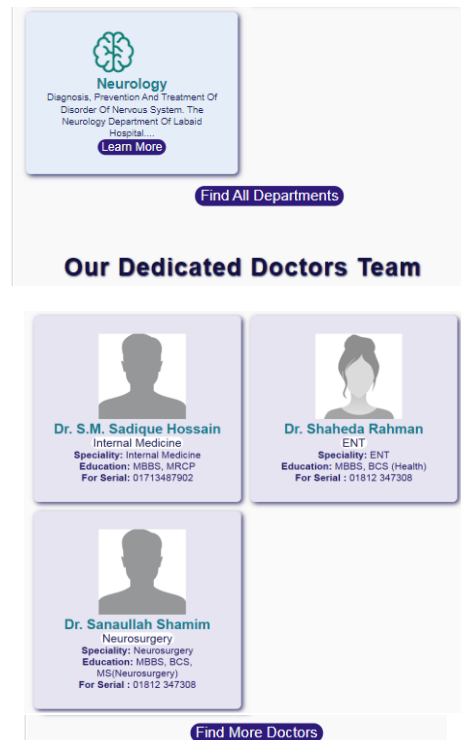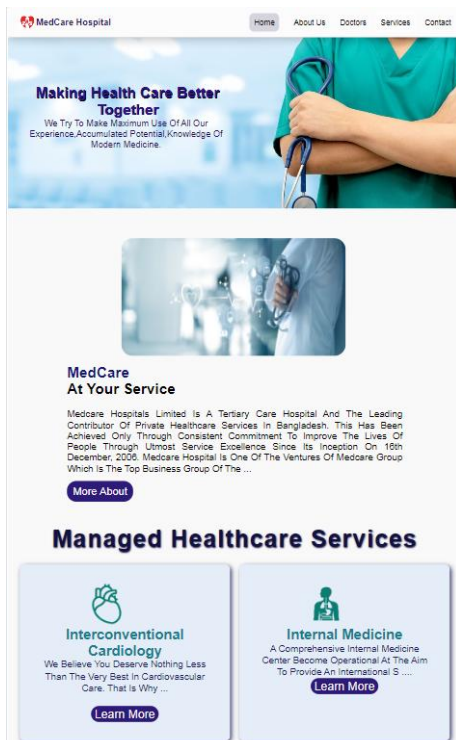Figure 25: User interface of homepage on smartphone

Figure 25: User interface of appointment page and contact us page on smartphone
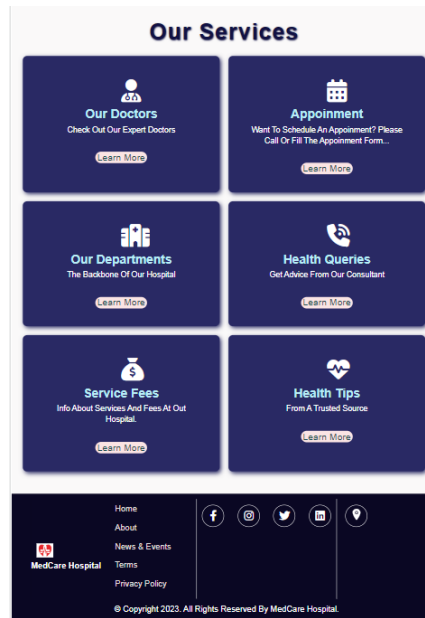
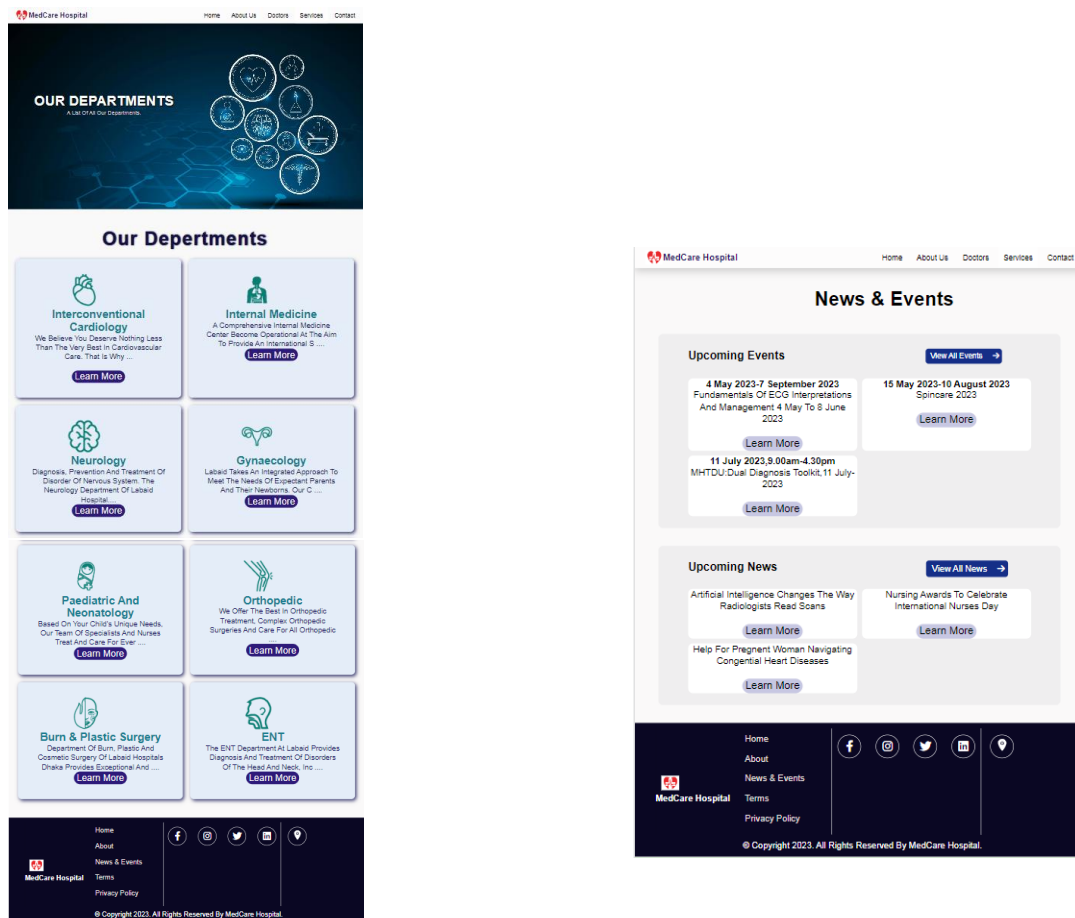Figure 26: User interface of homepage on tablet

Figure 27: User interface of Department page and News & Events page on tablet

Discussion:

As a website designing team, the main concern was to design a hospital website that effectively serves the needs of patients, visitors, and healthcare professionals along with a user-friendly interface. Throughout the development process, several challenges related to technical design and usability were encountered. Crafting a user-friendly interface by balancing between providing detailed information and maintaining a clean design was the first challenge. Implementing an appointment booking system, integrating Google Maps for location services, ensuring mobile responsiveness, along with organizing vast amounts of medical information and services department-wise was also a great challenge. These challenges provided us with opportunities to learn, adapt, and ultimately create a website that meets the diverse needs of the users while adhering to the highest standards of security and healthcare compliance. Embracing these challenges and continuously refining our approach, we developed a valuable resource that enhances patient engagement, accessibility, and the overall healthcare experience.