PREMIER UNIVERSITY CHITTAGONG

Department of Computer Science & Engineering

Project Report

on

A News Card Generator for Social Media

Course Title: Internet Programming

Course Code: CSE 3210

Submitted By:

Name: Md Kamrul Islam

Student ID: 0222310005101039

Batch: 43, Section: C1

Semester: 3rd, Session: Spring 2025

Department of Computer Science & Engineering

Supervised By:

Avishek Chowdhury Sir

Lecturer

Department of Computer Science & Engineering

Premier University Chittagong

Contents

Chapter 1: Introduction

1.1 Project Overview

The Astha Bangla News - Card Maker is a web-based application for creating professional news cards for social media. This addresses the need for visually appealing standardized news content in the digital media landscape, particularly for Bengali language news outlets.

1.2 Purpose and Objectives

The primary purpose is to provide an efficient tool enabling news editors and content creators to generate high-quality news cards quickly. Main objectives:

- **Streamline Content Creation:** Automate creating visually consistent news cards
- **Bengali Language Support:** Full support for Bengali text and automatic date formatting
- **Responsive Design:** Seamless functionality across all devices
- **Easy Export:** Download high-quality PNG images for social media
- **User Authentication:** Simple login system for access control

1.3 Target Audience

Designed for:

- News editors and journalists at Astha Bangla News
- Social media managers handling news content
- Content creators requiring standardized templates

The project demonstrates practical implementation of HTML5, CSS3, JavaScript, and responsive design principles.

Chapter 2: Development Process

2.1 Technologies and Tools Used

2.1.1 Frontend Technologies

The project utilizes modern web technologies to ensure optimal performance and user experience:

Technology	Purpose
HTML5	Semantic structure and content organization
CSS3	Styling, animations, and responsive layouts
JavaScript (ES6+)	Interactive functionality and dynamic content
html2canvas	Converting HTML elements to downloadable images
Kalpurush Font	Bengali language typography support

Table 2.1: Technologies Used in the Project

2.1.2 Design Framework

- **Responsive Design:** CSS Grid and Flexbox for adaptive layouts
- **Color Scheme:** Gradient backgrounds (Purple to Blue)
- **Typography:** Custom Bengali font integration

2.2 Website Structure

The application consists of four main pages:

2.2.1 Page Architecture

1. **index.html - Home Page:** Landing page with news grid, navigation menu, and sample cards

2. **login.html - Authentication:** User authentication with form validation (Username: admin, Password: admin)

3. **register.html - Registration:** User registration with fields for name, email, username, mobile, gender, password

4. **photocard.html - Card Maker:** Main interface with real-time preview, image upload, Bengali text input, and download functionality

2.3   Key Features Implementation

2.3.1   Dynamic Date System

Automatically displays current date in Bengali format, converting standard numeric dates to Bengali numerals and translating month names.

2.3.2   Image Upload and Preview

Real-time image preview without page refresh, providing instant feedback for content creators.

2.3.3   Card Export Functionality

Converts HTML preview card to downloadable PNG using html2canvas library, optimized for retina displays at high resolution.

2.3.4   Responsive Design

CSS Grid and Flexbox with media queries ensure optimal display across devices, with fluid typography and accessible interactive elements.

2.4   Challenges and Solutions

Challenge 1 - Bengali Font Rendering: Integrated Kalpurush font from CDN for proper Bengali character support.

Challenge 2 - Cross-Browser Export: Implemented html2canvas with CORS support and device-based scaling.

Challenge 3 - Mobile Responsiveness: Used CSS Grid with flexible sizing and clamp() functions.

Challenge 4 - Social Media Display: Applied flexbox with gap property for consistent footer layout.

Chapter 3: Results

3.1   Project Deployment

Successfully deployed on GitHub Pages:

- **Live Website:** https://kamrulisl.github.io/astha-bangla-news/
- **GitHub Repository:** https://github.com/kamrulisl/astha-bangla-news

3.2   Project Screenshots
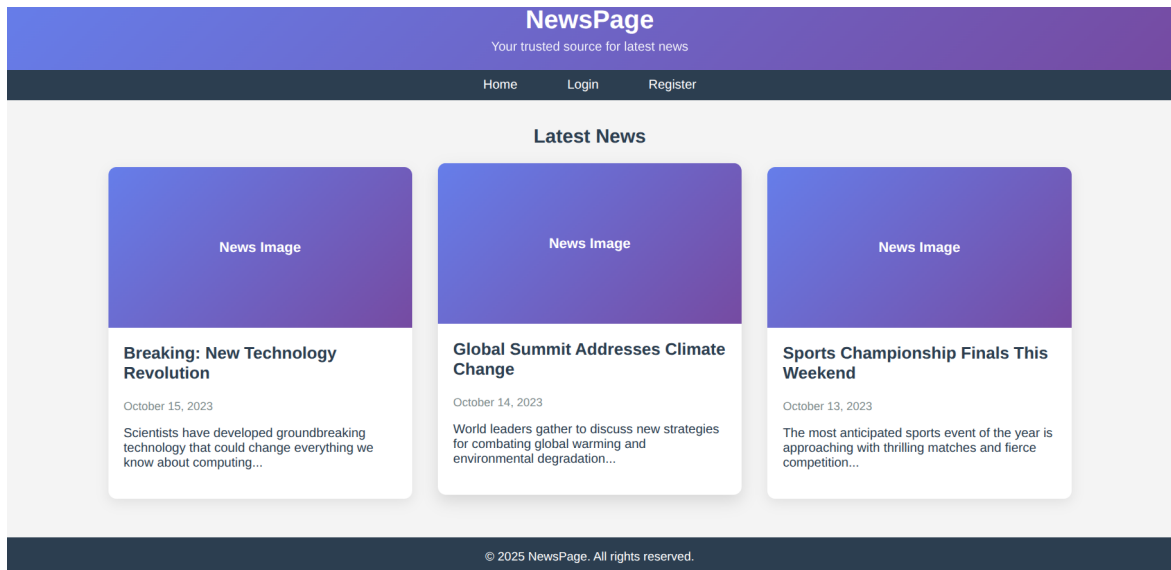
Figure 3.1: Home Page - Landing page with news grid and navigation

Figure 3.2: Login Page - User authentication interface

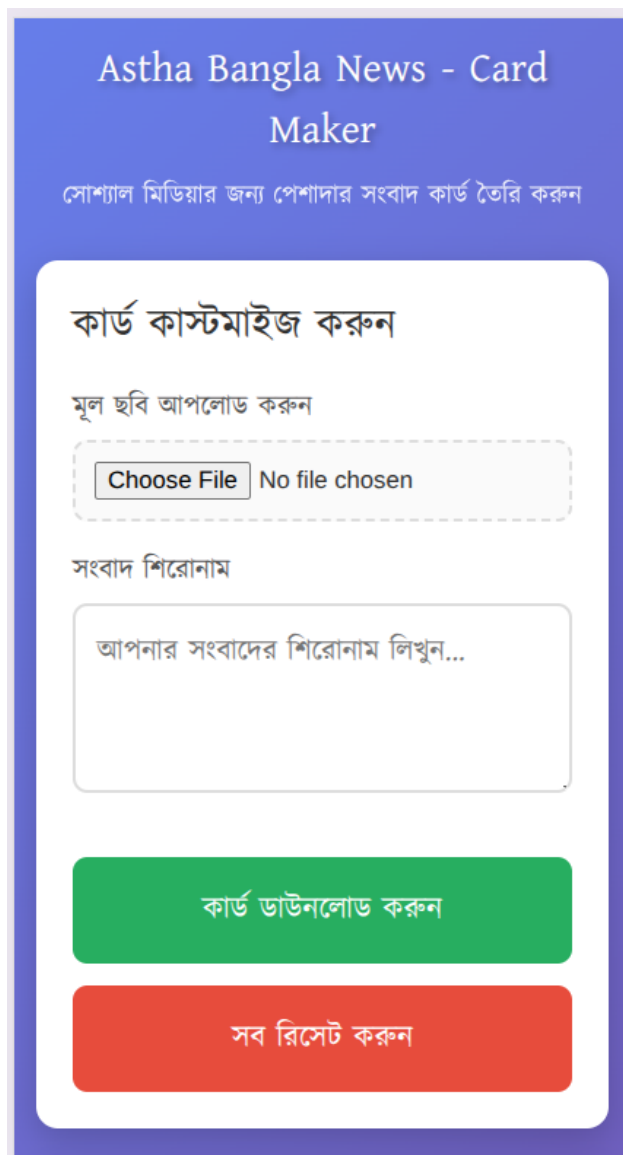Figure 3.3: Registration Page - User registration form

Figure 3.4: Card Maker - Input Panel with customization controls
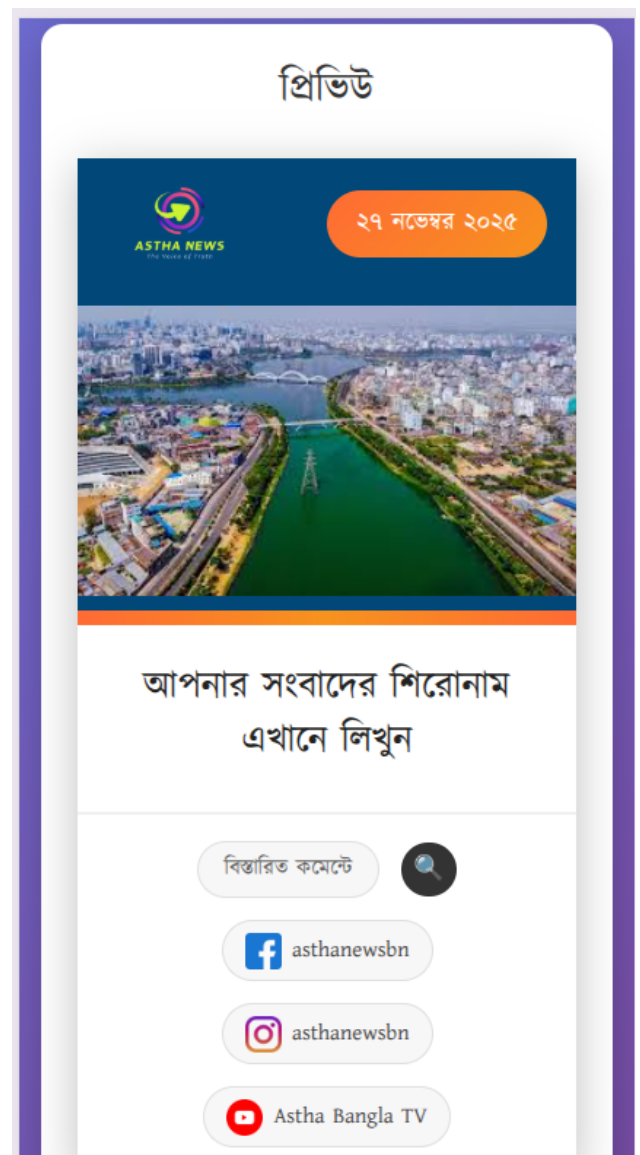
Figure 3.5: Card Maker - Real-time Preview Display

3.3   Features Demonstrated

3.3.1   Functional Features

- Image upload for custom news cards
- Bengali text and date support
- Real-time preview with instant updates
- High-quality PNG export
- Reset functionality

3.3.2   Design Features

- Professional Astha Bangla News branding
- Color-coded elements with brand colors
- Social media integration (Facebook, Instagram, YouTube)
- Responsive cards maintaining aspect ratio

3.4 Performance Metrics

Metric	Result
Page Load Time	Fast (under 2 seconds on average connection)
Mobile Responsiveness	Fully responsive across all device sizes
Browser Compatibility	Compatible with Chrome, Firefox, Safari, Edge
Image Export Quality	High-resolution PNG (2x scale on retina displays)
Code Validation	Valid HTML5 and CSS3

Table 3.1: Performance Metrics of the Application

3.5 User Experience

Intuitive user flow:

1. Visit home page and navigate to login
2. Authenticate and access card maker
3. Upload image and enter headline
4. Review real-time preview
5. Download PNG for social media

3.6 Project Success Criteria

Criteria	Status	Notes
Responsive Design	Yes	Works on all screen sizes
Bengali Support	Yes	Full text and date support
Image Upload	Yes	Multiple formats supported
Export Functionality	Yes	High-quality PNG download
User Authentication	Yes	Basic login system implemented
Code Quality	Yes	Clean, commented, maintainable
Browser Compatibility	Yes	All modern browsers supported

Table 3.2: Project Success Criteria Achievement

3.7 Future Enhancements

- Backend database for user management
- Multiple card design templates
- Direct social media posting
- Batch processing capability
- Advanced text formatting
- Image editing tools (crop, filter, resize)

Conclusion

The Astha Bangla News - Card Maker successfully demonstrates practical application of web technologies. The application achieves all primary objectives:

- Fully functional web application with multiple pages
- Responsive design across all devices
- Bengali language support for regional content
- Intuitive user interface
- Successfully deployed on GitHub Pages

This project showcases proficiency in HTML5, CSS3, JavaScript, and modern web development practices, demonstrating understanding of DOM manipulation, event handling, and third-party library integration. The deployed website serves as a working demonstration providing practical value to news content creators.

Declaration: I hereby declare that this project report is my original work completed as part of the Internet Programming course (CSE 3210) under the supervision of Avishek Chowdhury Sir, Lecturer, Department of Computer Science & Engineering, Premier University Chittagong.

Signature:

signature.png

Name: Md Kamrul Islam
Student ID: 0222310005101039
Date: 27/11/2025