

Frontend Engineering and System Development Internship Experience at HRSoftBD

by

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*Internship report (CSE4099) submitted in partial fulfillment of the
requirements for the degree of*

Bachelor of Science in Computer Science and Engineering

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DECLARATION

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I declare that this internship report entitled *Frontend Engineering and System Development Internship Experience at HRSoftBD* is the result of my own work except as cited in the references. The internship report has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

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CERTIFICATE

This is to certify that the internship report entitled **Frontend Engineering and System Development Internship Experience at HRSoftBD**, submitted by **Md. Nur Sapa** (Student ID: 221014037) is a undergraduate student of the **Department of Computer Science and Engineering** has been examined. Upon recommendation by the examination committee, we hereby accord our approval of it as the presented work and submitted report fulfill the requirements for its acceptance in partial fulfillment for the degree of *Bachelor of Science in Computer Science and Engineering*.

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Md. Nur Sapa

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Dedicated to
my loving Mother
– *Md. Nur Sapa*

EXECUTIVE SUMMARY

From my point of view, the internship has allowed me to gain useful industry experiences while practicing my theoretical knowledge. Specifically, I had my internship at HRSoftBD which is a software-oriented company where I was employed as a Front-End Developer with the responsibility of creating user-friendly and responsive applications.

One of the most significant goals of the internship was the development and improvement of my abilities related to front-end development. Besides that, one more goal I set before myself during the internship was understanding how professional teams deal with their tasks.

Within the scope of my work, there were many responsibilities that I had to carry out, such as the UI/UX designing of applications, front-end development, debugging, etc. Also, during the internship, I was engaged in software testing because it was crucial for me to check the data accuracy of application features.

There were difficulties and challenges that I encountered throughout the period; for example, some issues with designing UIs or debugging of programs which I coped with using different methods.

Keywords : Front-End Development, UI/UX Design, Responsive Design, Software Testing, Web Applications

Contents

1	Introduction	1
1.1	Introduction	1
1.2	Objective of the internship report	1
2	Background	3
2.1	Overview of HRSoftBD	3
2.2	Mission of HRSoftBD	4
2.3	Vision of HRSoftBD	4
2.4	Purpose of the Internship	4
2.5	Role and Responsibilities	5
3	Scope of Work	6
4	Internship Activities	8
4.1	Introduction of the Organization/Institution	8
4.2	Work Accomplishment	9
4.2.1	Week 3: System Auditing, Error Detection, and UI Optimization	11
4.3	Challenges Faced	15
5	Methodology	17
5.1	Development Approach	17
5.2	Data Collection and Processing	17
5.3	Testing and Validation Methods	18
5.4	Tools and Technologies Used	18
5.5	Collaboration and Workflow	19

6	Analysis and Findings	20
6.1	Results/Findings	20
6.2	Learning and Development	21
6.3	Tools and Technology	22
6.4	User Guideline	24
6.5	Impact of the Internship	25
7	Conclusions and Recommendations	27
7.1	Conclusion	27
7.2	Limitations	28
7.3	Recommendations	28
8	Acknowledgments	31
9	Appendix	32
9.0.1	Internship Certificate	32
9.1	Salon Pro	34
9.2	Voting	36
	References	37

List of Figures

9.1	Official Internship Certificate From HRSoftBD	33
9.2	Salon Pro Homepage	34
9.3	Order History	34
9.4	User Profile	35
9.5	Payment Process	35
9.6	Voting Slip	36
9.7	Id Card	36

List of Tables

Chapter 1

Introduction

1.1 Introduction

Internship plays an essential role in education in general and specifically in computer science and engineering because internships provide the possibility of obtaining practical experience and knowledge of real business practice.

This report represents an overview of the internship I had conducted in HRSoftBD, a software company. At HRSoftBD, I had the chance to serve as a Front-End Developer where my task was to create a user-friendly interface by means of using appropriate programming languages. As such, this internship provided me with the experience in real-world project management and team work.

In general, the primary objective of this report is to provide a detailed overview of what I have done during the internship and analyze my activities, responsibilities, and achievements during this period. This report contains the information concerning the company, the work performed, and my personal contribution and learning results obtained while working for this software company.

Thus, conducting this internship was crucial for me in terms of acquiring practical experience, technical skills, and getting prepared for similar tasks in the future.

1.2 Objective of the internship report

The primary goals of this internship report are outlined below:

- To offer an elaborate presentation of the knowledge, skills, and experiences gained while on internship at HRSoftBD.

- To show a detailed account of the tasks carried out, the duties I undertook, and the roles I played during the period of the internship.
- To prove how the theoretical knowledge learned academically can be put into use in the real world of software development.
- To emphasize the significance of practical knowledge and its role in sharpening technical skills, especially for front-end development.
- To enhance the level of analytical thinking and problem-solving ability by working on projects and solving problems in real time.
- To give a detailed insight into the corporate structure, processes, and operations of the firm.
- To reveal the difficulties encountered during the internship period and show how I managed them.
- To act as an academic document, which critically assesses my internship experience.

Chapter 2

Background

This chapter highlights a brief introduction to **HRsoftBD (2026)** , which includes the history of the organization, services offered by the organization, the vision and mission of the organization, and the purpose of the internship. The role played by me during the internship is also highlighted.

2.1 Overview of HRSoftBD

HRsoftBD (2026) is a private IT software firm operating in Dhaka, Bangladesh, since 2012. The organization has gained a good reputation among the clients due to its quality service and performance through more than 490 projects served to different clients, which include government institutions, private organization, and foreign clients. The firm consists of professionals in the ratio of 25-35.



Figure: HRSoftBD Logo

The organization offers various services like web/mobile applications, enterprise solutions (ERP, HR, and Payroll), Optical Mark Recognition (OMR) solution and Digital ballot counting system, digital marketing, bulk SMS services, domain hosting, and artificial intelligence solutions. Very recently, the organization offered a new HR tracking solution which would monitor the activity of employees using computers at their workplace.

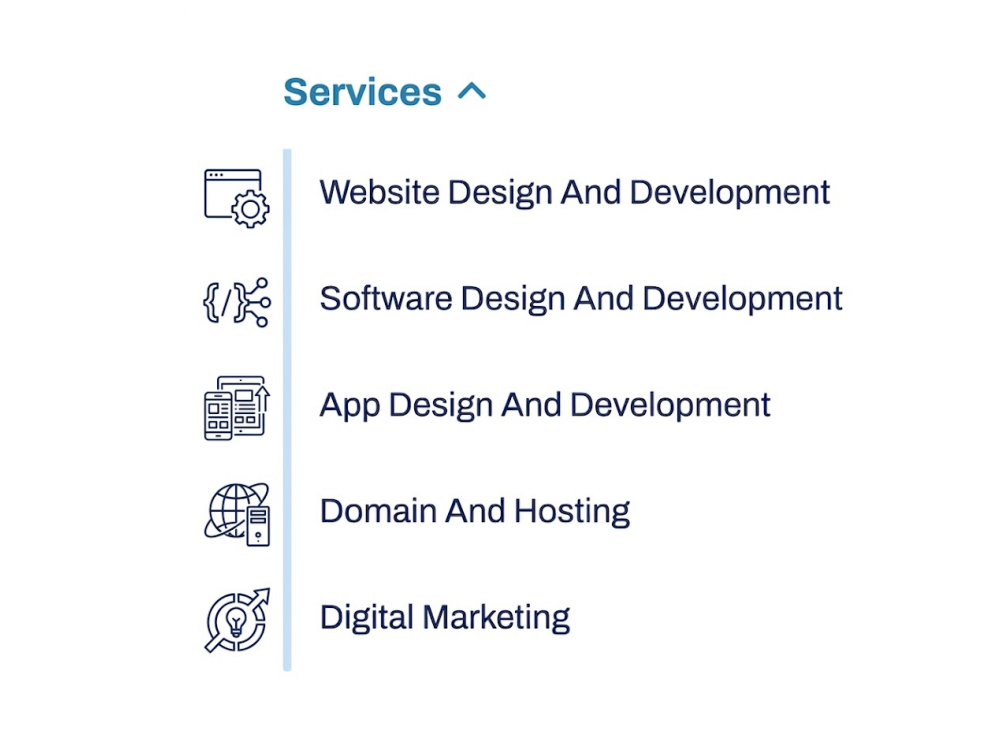


Figure: HRSoftBD Services

2.2 Mission of HRSoftBD

HRsoftBD (2026)'s aim is to offer quality software services by being creative, honest, responsible, and hardworking. The company aims at meeting their clients' demands by offering dependable, efficient, and scalable software solutions.

2.3 Vision of HRSoftBD

HRsoftBD (2026)'s mission statement is to create a world-class software developing organization that can provide revolutionary IT solutions, maintaining global standards. The organization strives to extend its service globally and constantly upgrade itself technologically.

2.4 Purpose of the Internship

HRsoftBD (2026)'s internship program was aimed at connecting the knowledge

gained from education with the practical experience required in the industry. The internship allowed me to get firsthand exposure to a professional setting and learn about the process of developing software applications in real life.

2.5 Role and Responsibilities

As part of my internship, I worked as a Front-End Developer. My duties entailed designing and coding the user interfaces of web applications in a way that ensures easy user navigation as well as performing tests and fixing bugs in such applications. This job also required me to validate user input and verify system functionality, thereby improving the application performance.

This helped me take an active part in real-life projects and interact with other team members.

Chapter 3

Scope of Work

At HRSoftBD, my internships entailed participating in different developmental and testing processes. These included front end design, application development, data validation, and software testing. The subsequent chapters provide detailed descriptions of these aspects of my work.

- **Front-End Development:** The main part of my work included UI development for web apps. The UIs were designed responsively in order to make sure that they could run properly on different screens. It involved using advanced front-end technologies to design intuitive interfaces.
- **UI/UX Design Implementation:** UI/UX designing techniques were applied by me in order to enhance the user's experience. Layouts were well-arranged, color schemes were chosen accordingly, and the navigation became more fluent throughout the whole system.
- **Project Contributions:** Some of my contributions were towards applications for restaurants and services. Some of my responsibilities were creating web pages, enhancing UI elements, and guaranteeing proper functioning of various user accounts such as administrators and users.
- **Software Testing and Debugging:** Apart from development, I was very much engaged in the process of testing and debugging. This included checking user inputs, verifying data, as well as detecting any kind of bugs in the system.

- **Data Entry and Validation:** Data Entry and Accuracy of Data: I entered data into the system and made sure that the data was accurate. I checked to see if the system processed users' data properly.
- **Collaboration and Teamwork:** I collaborated with my teammates, which included software engineers and managers, on task completion. This enabled me to learn about team processes, communication, and practical project management.

Chapter 4

Internship Activities

4.1 Introduction of the Organization/Institution

Introduction HRSoftBD is an IT services firm based in Dhaka that has been running for the last 11 years. It offers solutions based on technological advancement to many different clients. This organization has made its mark within the domestic IT market by offering their services to government agencies, companies, and overseas clients. Having more than 13,000 clients, HRSoftBD has built a name for itself.

The organization is dedicated to providing superior digital solutions, with customer satisfaction at the center of everything it does. It aims to ensure that it understands the requirements of its clients and provides reliable and scalable solutions tailored to current business demands.

Some of the IT services and digital solutions provided by HRSoftBD include:

- **Web Design and Development:** Developing dynamic web applications.
- **Mobile and Desktop Applications:** Development of cross-platform software solutions.
- **Enterprise Software:** Providing solutions like ERP and HR/payroll management systems.
- **Specialized Systems:** Optical Mark Recognition (OMR) Systems and Digital Ballot Counting Systems.
- **Digital Marketing Services:** Managing SMS and email marketing campaigns.

- **Infrastructure Services:** Hosting services and cloud-based solutions.
- **E-commerce Solutions:** Building complex web applications for online retail.

One thing that stands out in the recent developments made by HRSoftBD is their HR tracking system that enables the monitoring of employee computer use. This can help firms evaluate employee performance, streamline processes, and manage resources effectively.

HRSoftBD works within a cooperative work environment whereby developers go through different processes in designing, developing, testing, and deploying IT solutions. The company embraces the philosophy of continuous improvement and adaptability and pursues client-centric approaches, which are key drivers for its success in the dynamic IT industry.

4.2 Work Accomplishment

Week 1: Data Processing and Validation (Dr. Zahid Hossain Project)

In my internship at HRSoftBD, during the first week, I was given the assignment to work on the Dr. Zahid Hossain project. This particular project of Dr. Zahid Hossain is a tool that helps the voters of Dinajpur-6 find their respective voter centers based on their personal information. This tool operates based on a huge amount of data exceeding 600,000. In this week of my internship, my main tasks included preparing, processing, and validating this huge amount of data.

- Large amounts of data were processed from voter data in PDF format to Excel format for use in the system.
- Datasets for the Hakimpur area were processed and organized accordingly.
- The uploaded datasets were arranged in the system correctly.
- Data inconsistencies were reviewed and corrected accordingly, which involved correcting the Birampur-1 dataset.
- Voter centers' data were updated accordingly to include all data that were not in their place.

- Spelling errors in area names were corrected to improve data accuracy.
- Data were checked for accuracy through random searches in voter data.
- Data processing of 600,000+ records was part of the assignment.
- It is clear that data cleaning is vital in actual systems since data usually have discrepancies when compared to theoretical ones.
- Practical skills in data processing and accuracy checks were acquired during the assignment.

Week 2: Web Development, Data Processing, and System Improvement

In the last week, I have been busy working with different projects as well as related data and development processes. The two main projects that I have been working with are the Dr. Zahid Hossain voter information system and HR Tracker System. My efforts have revolved around designing of the interface and working with data processing.

- Designed and developed the front end of Dr. Zahid Hossain web page, particularly focusing on structure of layout and design.
- Performed data conversion from PDF to Excel for multiple locations that included 2 thanas and 3 wards.
- Worked with more data sets, involving 1 thana and 3 wards, and uploading the data.
- Performed content update for website, which included addition of news and images.
- Examined the HR tracker web application for usability and functionality.
- Analyzed system problems, performed review for the same, and suggested ways to improve it.
- Redesigned the HR Tracker web page layout.

- Performed updates within HR Tracker System.
- Got practical exposure about front end design and real-life data processing.
- Learned about importance of improvement and user-centric design.

4.2.1 Week 3: System Auditing, Error Detection, and UI Optimization

The assignments I undertook this week involved system optimization and improving the experience of users. Audits were carried out to review the layout of administration modules of the HR Tracker and Shift Management systems.

- **UI/UX Audit (HR Tracker System):** Carried out a comprehensive website audit to uncover design defects and navigation problems.
- **Design Improvement:** Gathered precise feedback for optimization purposes, such as highlighted active menu items and colored data fields for better user engagement.
- **System Upgrade:** Began to upgrade the interface and address design problems to ensure usability.
- **System Audit (Shift Management Admin Panel):** Audited the complete admin panel for data consistency and logical system flow.
- **Bug Fixation:** Detected crucial software bugs and other system faults that had been interfering with the shift management system.
- **Bug Repair:** Fixed all detected bugs and confirmed that the Shift Management panel is working as intended.
- **Skill Development:** Acquired experience in conducting technical audits and translating audit results into practical design modifications.

Week 4: System Testing, Debugging, and Technical Analysis

This week, my tasks were to test the systems, identify the errors, and validate the performance of different systems such as the English Fantasy system, Online Medical Report system, and Monjurul Islam project among others.

- Performed thorough tests on the English Fantasy admin system to determine errors in the system.
- Identified several errors in the system and documented them in a technical report.
- Proceeded to carry out a comparison of manual and online medical patient report systems in terms of efficiency.
- Tested for the accuracy and proper functioning of previously discovered errors in the system.
- Proceeded to validate the system performance through testing of its functionalities.
- Carried out tests on the Monjurul Islam system to identify the errors and re-upload necessary data and ensure proper functioning of the system.
- Performed comprehensive testing to ascertain whether all functionalities in the system were working.
- Gained hands-on experience in debugging and system validation processes.
- Enhanced analytical skills through system evaluation and discovery of discrepancies in the system functionalities.

Week 5: Shift Management Design and Development

For this week, the assignments involved working on the Shift Management project, particularly in front end design and analysis of the admin backend functionality.

- Designed the shift management front end design and conducted tests in the admin backend module for data consistency.

- Invested a considerable amount of time in designing the shift management front end design.
- Proceeded with the front end design phase for the shift management system.
- Took scheduled rest days on Wednesday and Thursday.
- Acquired additional knowledge in designing front end layouts for management systems.

Week 6: Payroll Management System Design

The current week had the Payroll Management project being carried out. Much time and effort were dedicated towards designing the front end design of the home page and the admin panel in order to cater to the management needs of the system.

- Designed and developed the homepage for the Payroll Management System taking into account user accessibility.
- Worked on the front end design of the home page to design the payroll management page.
- Dealt with the front end design of the payroll admin panel.
- Worked with others on designing and developing the front end structure of the admin panel and other pages.
- Completed the front end design for the payroll admin panel.

Week 7: Multi-Project Testing and Frontend Design

This week, I have worked on multiple projects that were being carried out concurrently. These projects included Shift Management, Monjurul Islam, Payroll Management, and Islamic TV. The tasks included testing role-based permissions and ensuring data validation and responsiveness in the frontend.

- The Shift Management system was tested by allocating users roles and then checking if permissions were allowed or restricted depending on the allocated roles.

- Sample data was entered into the Shift Management system to test all functions and ensure everything worked fine without any problem.
- The frontend of Shift Management was designed with a neat and responsive look.
- The data from the Monjurul Islam search center was checked for errors and reuploaded.
- The home page for the Payroll Management project was designed while checks were made to the payroll admin panel and the front end.
- The Islamic TV website and admin panel was checked to see that all news was posted on the site.

Week 8: Project Development and Registration Page Testing

Week included development work on the education platforms as well as testing of local association portals. My tasks included developing the demo project, namely "Edu Flow," and carrying out QA test for the registration page for "Dinajpur jila shomiti."

- Carried out development for the Raniganj National Biddapith Alumni Association portal project for the Raniganj Association.
- Initiated development of "Edu Flow," which is a demo project with emphasis on building up an education-based website.
- Proceeded with development of the Edu Flow education-based website.
- Performed functional testing of the Dinajpur jila shomiti registration page.

Week 9: Production-Level Front-End Development

In Week 4, I was mostly involved in the "Parlour Spa Service" task. I designed the front end of the services' modules. This was an important assignment because my designs were used directly to implement the final production product of the company.

- Initiated the front end design process for the Parlour Spa Service project.
- Designed the layout of the front end of the spa services interface.
- Worked alongside the development team to prepare the front end for production.
- Completed the front end design of the Parlour Spa Service modules.
- Validated the interface design to ensure it was fit for production.

Week 10: Advanced Validation and UI Implementation

In the given period, my major area of focus was system validation of the Restaurant Website and also the design and testing of Salon Pro project. The tasks included checking the functionality of such difficult features as permissions for roles and the data entered into the dashboard.

- Worked on the restaurant website where sample data was entered for testing of all features.
- Carried out system validation for both the restaurant website with regard to role-based permissions (admin and user).
- Designed the frontend UI for the Salon Pro project with a professional outlook.
- Built functionalities in the Salon Pro interface for better interaction.
- Entering data into the dashboard of Salon Pro to detect bugs, fixing them, and validating the permission systems.

4.3 Challenges Faced

During the time I spent interning at HRSoftBD, there were many professional and technical hurdles that I had to overcome. This helped me cultivate discipline in the process of programming and professionalism.

- **Adaptation to the Professional Environment:** In the beginning, there was difficulty in shifting from the academic atmosphere to a professional office setting. However, it took only a couple of days to get used to everything. I managed to adapt to the work environment and the corporate culture, and I overcame that problem within a short time.
- **Transitioning to Production-Level Development:** One of the biggest obstacles faced by me is where my industrial supervisor started giving me assignments for products at the production level for the very first time. It was scary to be assigned to do some work for a live system that is actually used by the customers because there were heavy stakes involved in such a case. But I promised to give it my best try and managed to submit the task to my supervisor's satisfaction.
- **Managing Large-Scale Datasets:** Working with huge volumes of data posed a big challenge for me. Data integrity and detecting inconsistencies in such huge data proved to be very painstaking. My solution to this was to develop efficient data verification techniques which helped me get accurate data regardless of how huge it was.

Chapter 5

Methodology

This chapter deals with the methodologies used to carry out the procedures and techniques adopted while working in HRSoftBD for my internship. It will help in understanding the process through which the work was done, data processing was conducted, and development and testing were performed.

5.1 Development Approach

A process-based software development approach was adopted throughout the internship period. The work that was delegated to me depended on the needs of the project, and I would develop software functionality in an incremental fashion. As far as front-end development goes, my main focus was on developing user-friendly interfaces, which were also cross-platform compatible.

I employed a component-based design for the interface, where components were gradually improved through iterations.

5.2 Data Collection and Processing

A considerable amount of my job entailed working with huge volumes of data, especially in projects such as the voter database system. This involved gathering data from PDF files and translating it to more useful formats like Excel.

The data processing techniques were as follows:

- Data extraction from unstructured documents (PDFs)

- Converting and structuring data into a systematic form
- Data cleaning and correcting discrepancies (for instance, incorrect spellings, missing entries)
- Data uploading to the system

This enabled the data to be precise and organized for the purposes of the system.

5.3 Testing and Validation Methods

Tests were a critical component of the internship. The following steps were taken using a systematic test process to guarantee system efficiency and functionality:

- Functional tests were conducted to ensure that all functions performed as intended.
- Role-based testing (for example, administrator access vs. user access).
- Inputting sample data into the system.
- Finding any bugs or anomalies within the system.
- Re-testing to confirm whether errors had been corrected.

This strategy ensured system quality and efficiency.

5.4 Tools and Technologies Used

While on internship, I made use of the following tools/technologies to successfully achieve my objectives, which include:

- HTML, CSS and JavaScript frameworks - Front end technologies used in developing the user interface
- Spreadsheets – such as Excel

- Admin interfaces available through websites
- Browsers' developer tools

These were some of the tools that greatly contributed to efficiency when working.

5.5 Collaboration and Workflow

Team-based learning took place, where assignments were regularly allocated and reviewed. Communication within the team assisted in comprehension of needs and resolution of problems. The process flow in general included the following stages:

- Understanding needs of the project
- Creating or developing features
- Debugging and testing
- Reviewing and refining

Chapter 6

Analysis and Findings

6.1 Results/Findings

In this section, I would like to present my main accomplishments and learnings from the internship conducted with HRSoftBD. It will include the practical outputs generated, the various improvements done, and the knowledge gained during this period.

Key Results

- Designed and built various front-end applications like the Shift Management System, Payroll Management System, Salon Pro, and Parlour Spa Services to enhance user experience and usability of interface.
- Worked on actual projects that have been utilized in actual production, ensuring that the interfaces created were able to satisfy real-life criteria.
- Performed processing and management of big data (over 600,000 records) on the voter database to provide fast searching capabilities.
- Ensured reliability through identification and correction of mistakes via testing and debugging procedures.
- Improved the accuracy of the data through validation and arrangement of the data.
- Used responsive design concepts to ensure the application is compatible with all devices and different screen sizes.

- Enabled role-based function of the system by testing user access controls.

Key Findings

- Real-life software development involves constant testing and refining as opposed to coursework projects that are generally static.
- The data available in real life may be unorganized and may need extensive pre-processing.
- User experience (UI/UX) is vital to the efficiency of a system and satisfaction.
- Cooperation among developers is fundamental in achieving success in a project.
- A minor error in the data or interface may affect the system's efficiency and functionality greatly.
- Real-world exposure allows one to gain insight into the entire software development process.

The internship was an excellent learning experience in terms of understanding practical software development techniques. This was because it allowed me to gain some experience in dealing with real software applications, managing large amounts of data, and solving problems at a systems level. The outcomes from this internship have proven to be quite productive.

6.2 Learning and Development

The internship with HRSoftBD offered numerous learning chances to improve both technically and professionally. Thanks to direct involvement in project work, I acquired some additional knowledge and learned more about the software development process.

Firstly, in terms of my technical skills, I had an opportunity to improve front-end development techniques because I worked with several live projects. It helped me learn more about developing responsive interfaces and structuring various UI

components. Besides, thanks to the internship, I have realized how front-end works in interaction with backend parts in real software systems.

Another valuable experience that I had during this period related to software testing. Performing debugging and testing activities helped me understand the significance of the problem-solving process. Now I know that any bug can influence the entire performance of the application significantly.

Moreover, working with extensive data pools allowed me to gain experience in the sphere of data processing and validation. Dealing with real data, which is mostly unstructured, I found out that this type of information must be treated carefully to provide correct results.

From a professional standpoint, the experience allowed me to learn and hone my skills at communicating and working in a team while adhering to all professional standards. In addition, I was able to improve my skills related to time management and taking on responsibilities.

Overall, the internship proved to be extremely helpful for improving my professional competencies.

6.3 Tools and Technology

While working as an intern at HRSoftBD, I used different types of technologies to assist me in developing front-end software, process data, conduct tests, and debug problems. The various technologies were very crucial for the efficient performance of the tasks listed above.

Front-End Development Technologies

- HTML, CSS, and JavaScript: Utilized for the creation and development of interactive user interfaces.
- CSS Frameworks (such as Tailwind CSS or Bootstrap): Employed for quick UI development and design styling.
- React.js : Utilized for the creation of dynamic user interfaces.

Data Processing and Management Tools

- **Excel by Microsoft:** Used for data conversions, organizing, and management of huge amounts of data (example: conversion from PDF to Excel).
- **PDF Tools:** Used for extracting and converting data from PDF files to other formats.

Testing and Debugging Tools

- **Developer Tools for Browsers (Chrome DevTools):** Used for debugging and testing web applications' performance.
- **Manual Testing Techniques:** Used for functional verification, validation of user data entry, and RBAC checks.

Development and Collaboration Tools

- **Code Editor:** This tool is used for writing and managing codes. (e.g. Visual Studio Code)
- **Version Control:** This is used for tracking changes done by the team member. (e.g. Git)
- **Web Browser (Chrome, Firefox):** Web browsers are used for cross-browser testing.

Hardware and Environment

- **Computer:** For development, testing, and processing of data.
- **Internet Access:** Needed to access development servers, upload data, and work with other members of the team.

All in all, such tools and technologies enabled me to successfully perform various tasks relating to front-end programming, data management, and testing, among others. Their proper utilization contributed significantly towards ensuring efficiency, precision, and high-quality outputs during the internship.

6.4 User Guideline

This part gives users general tips on how to make effective use of the software applications created during the internship period at HRSoftBD.

Accessing the System

- To access the system, the user should use any of the supported browsers, such as Google Chrome or Mozilla Firefox.
- A strong internet connection should be available in order to run the application effectively.
- The user should log into the system using a username and password issued by the system administrator.

Navigating the System

- The system has an easy-to-use interface, with menus and options being displayed prominently.
- The user can move from one menu option to another using the main menu on the left-hand side of the screen.
- The options for adding, modifying, and deleting data will be accessed through buttons labeled for each purpose.

Entering Data

- The user should provide valid data in all fields.
- There will be validation controls that check if the data entered is appropriate or not.
- If the entered data is invalid, an error message will appear.

Search and Information Retrieval

- Information can be searched by the users (voter or system information) using the search feature.
- Use of proper keywords or names may help fetch correct results within a short period of time.
- The software is designed in such a way that it can work smoothly even in larger volumes of datasets.

Role-Based Access Control

- Users with different rights, including admin and other users, are provided with different permissions.
- Admin users will have more access rights regarding data management and setting up system parameters.
- General users will have restricted rights based on their particular roles within the system.

Testing the System and Error Handling

- In case users face any issues or errors, they should first check whether it was caused by incorrect input or refresh the page.
- If problems still persist, users need to contact the software developer or the system administrator immediately.

It is advisable to sign out after logging in to perform certain operations to ensure security. Users must not enter duplicates or incorrect data in the system.

6.5 Impact of the Internship

My internship in HRSoftBD has been involved in multiple current projects where I had provided support in terms of development, processing data, and testing

systems. As a result of my efforts, I was able to contribute to enhancing the efficiency and usability of several software applications.

As part of the front-end development processes, I designed responsive user interfaces for Shift Management, Payroll Management, and Salon Pro, which improved the user experience associated with these systems. Moreover, I had a chance to work on the processing of huge databases (more than 600,000 records), which has been essential for optimizing data sorting in the voter information system.

Participation in testing and debugging was instrumental in detecting errors and providing their corrections. In addition, I have been engaged in performing analyses of various systems.

In general, my contributions allowed me to assist the company in providing efficient software solutions to customers, which gave me an opportunity to obtain practical experience.

Chapter 7

Conclusions and Recommendations

7.1 Conclusion

HRSoftBD Internship The internship at HRSoftBD was a great experience in connecting theory to practice and gaining valuable insights into the processes of software development. During the internship term, I had an opportunity to take part in several projects where I applied the theoretical knowledge acquired in class and gained practical experience in front-end development, data processing, and system testing.

While working on different systems, such as voter databases, management software, and service-oriented applications, I managed to learn more about the process of software implementation and gained experience in developing responsive interfaces, processing massive amounts of data, conducting validation tests, and detecting system errors. All these experiences played an important role in improving my technical expertise and solving complex problems.

Moreover, in addition to the technical skills gained during the internship, I managed to improve my interpersonal skills. While working within teams, I learned to collaborate and coordinate efforts with other people to complete projects. In addition, I improved my communication skills and learned to manage time effectively to complete assignments.

All in all, this internship period has been very instrumental in defining my career objectives and preparing me for my intended profession. I have been equipped with all that is necessary for me to launch a successful career in the software development field.

7.2 Limitations

While there were many beneficial lessons learned while completing the internship at HRSoftBD, several factors limited the extent of the overall internship experience.

First, the limited time available for completing the internship prevented the opportunity to delve into the entire scope of software development. Most of the time, the internship experience allowed me to work on developing the front-end of the website, processing data, and performing tests. The experience provided no exposure to the backend development process.

In addition, some areas of the live systems were off-limits to avoid any breaches of security. Thus, it was difficult for me to interact with the system features and sensitive data directly.

Certain activities, like converting data and validating information, were rather monotonous. Although this experience helped to improve my precision and focus, it did not give me much chance to engage in complex development and creative problem solving.

Moreover, during the internship period, several factors could affect the working hours. The timing coincided with the election period in Bangladesh and the holiday season associated with Ramadan and Eid al-Fitr, resulting in fewer days available to work on the project.

Moreover, as an intern, I had no significant participation in the process of making important decisions and designing systems since such activities were mainly carried out by experienced programmers.

On the whole, even though there were certain drawbacks, they helped me gain more knowledge about the actual situations at work.

7.3 Recommendations

Drawing from my personal experience of working as an intern in HRSoftBD, where I gained practical experience in managing large amounts of data, designing front-end production-level websites, and validating the entire system, I propose the following changes that would improve the efficiency of the company and ensure quality products:

- **Modernizing Hardware and Development Environment:** Considering the nature of resource-intensive tasks, such as computer vision and big data processing (in excess of 600,000 lines of data), the company must modernize their hardware resources. Providing developers with advanced computers and setting up a proper staging environment for testing would eliminate instability issues and system lag times.
- **Automating Data Conversion and Regression Testing:** The company heavily relies on manual processes for converting PDF data into Excel and manually testing the application. Automating OCR scripts and regression tests would be crucial for projects such as Dr. Zahid Hossain and Payroll Management to guarantee data accuracy and bug detection during early development stages.
- **Consistency through Formal Code Review Process:** Adopting a standardized code review process would establish consistent coding standards. Interns could gain valuable insight by participating in such reviews, learning important design patterns and avoiding common mistakes in development practices.
- **Requirement Formalization and Analysis:** To ensure that there is no scope creep and misunderstanding during the implementation process, requirement analysis must be performed beforehand. In addition, having up-to-date technical documentation for all the systems in use will make onboarding of any developer or intern much faster.
- **More Robust Data Minimization Approach:** For all tracking and management systems in use, it is essential to have a more detailed data minimization policy that will explicitly state what information is being gathered. Furthermore, strict role-based access controls are essential in this case as well since this way, our software would adhere to global best practices for privacy-aware systems.
- **Technical Knowledge Sharing and Advanced Software Tools:** To address skills mismatch and catch up with other companies in the IT industry, the company should introduce knowledge sharing seminars as well as access to better software tools and licenses. Also, conducting "Lessons learned"

discussions after major milestones (such as election and payroll projects) would be quite beneficial.

Chapter 8

Acknowledgments

First of all, I would like to thank all of those who have been there, supporting me throughout my internship with HRSoftBD. This is indeed a valuable experience from which I have learned so much and that helped me gain both professionally and personally.

To start with, I want to extend my sincerest thanks to my mentor, Mr. Md. Atiqur Rahman, for his great support and valuable advice and suggestions, which helped me to perform better in solving the production level problems. His mentorship played a very crucial role in my career as a frontend developer.

I am also very grateful to the senior backend developer, Miss. Sabnam Sabah, for her support and knowledge about the importance of backend systems with respect to the front-end system interfaces. She is also someone I had relied on to get through my time at the organization.

Next, I would like to thank my colleagues, Habib and Mishu, for being such good friends as well as for working so nicely alongside me.

Last but not least, I want to thank everyone at HRSoftBD for giving me this opportunity and for everything else.

Chapter 9

Appendix

9.0.1 Internship Certificate

This portion of the document showcases the certification issued by HRSoftBD as a mark of accomplishment for completing the internship period successfully. This certificate is issued as an acknowledgment of my contribution towards the engineering team and validates my designation as a Front-End Developer Intern within the stipulated period. This document highlights my participation in development activities, data handling operations, and other professional ethics.

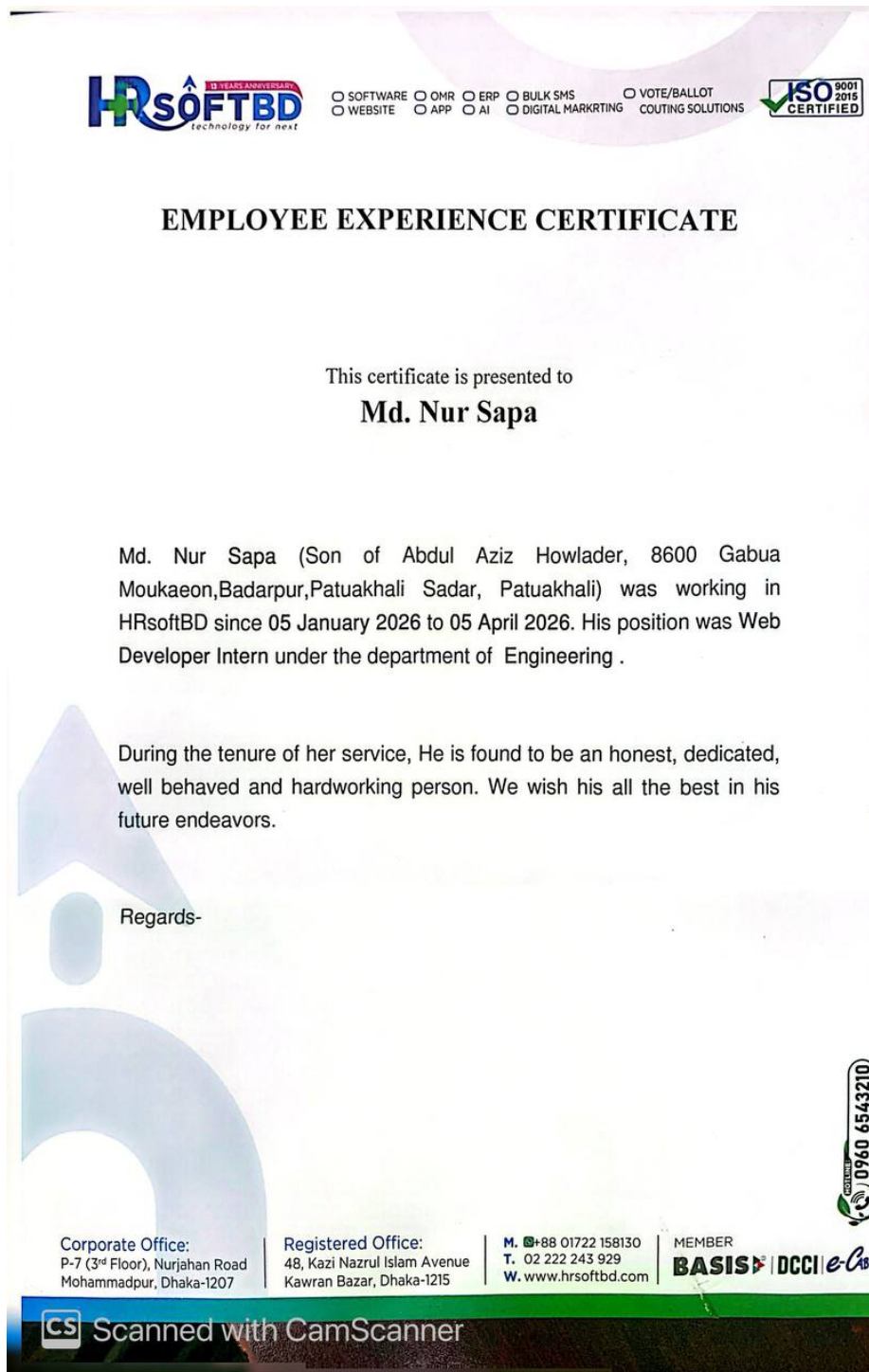


Figure 9.1: Official Internship Certificate From HRSoftBD

9.1 Salon Pro

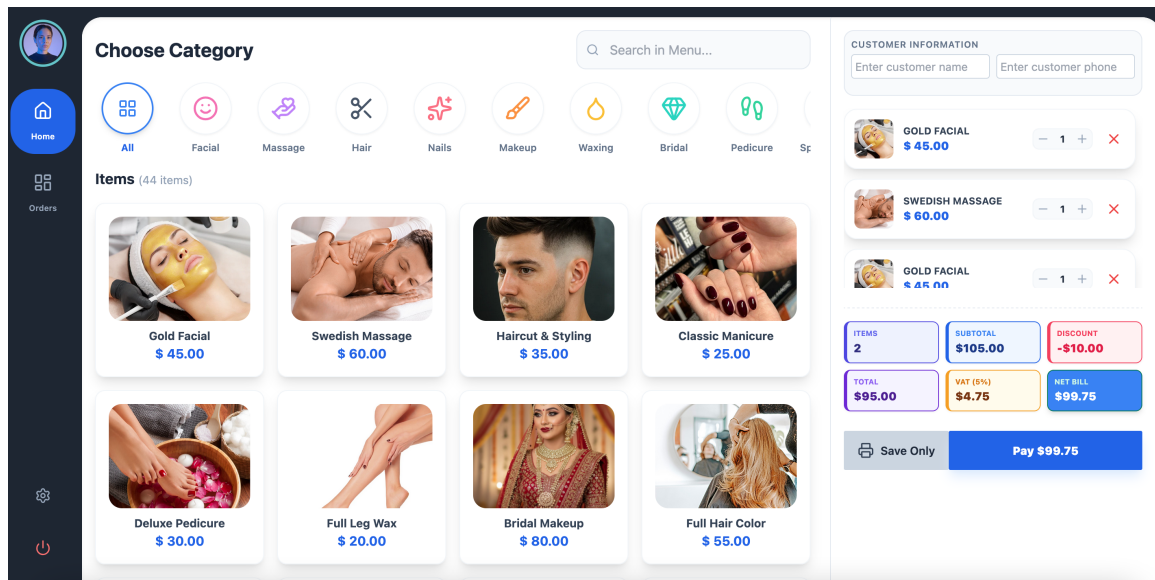


Figure 9.2: Salon Pro Homepage

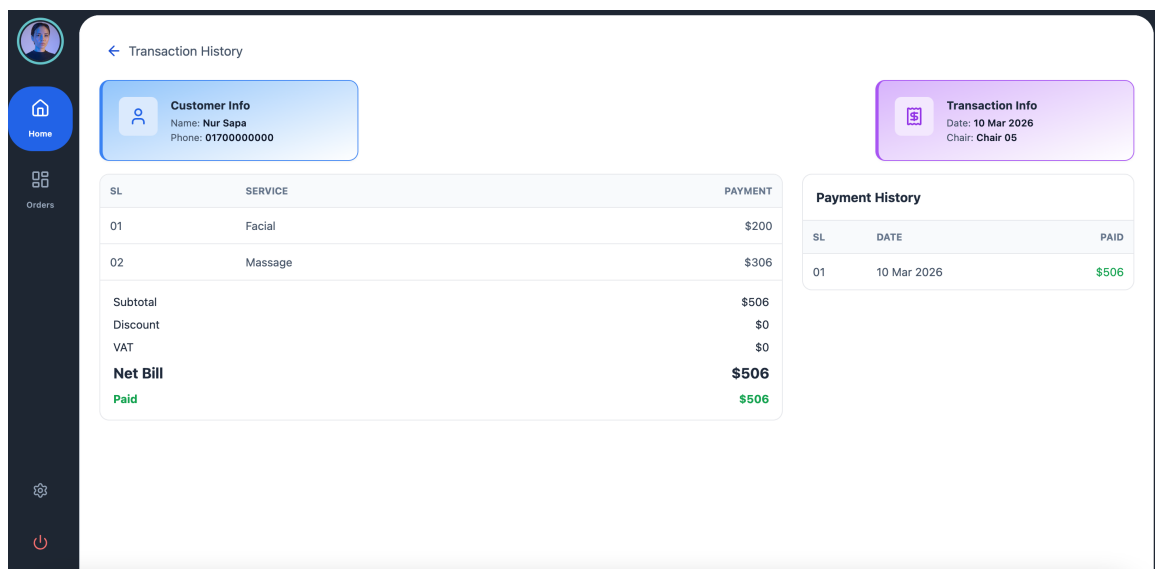
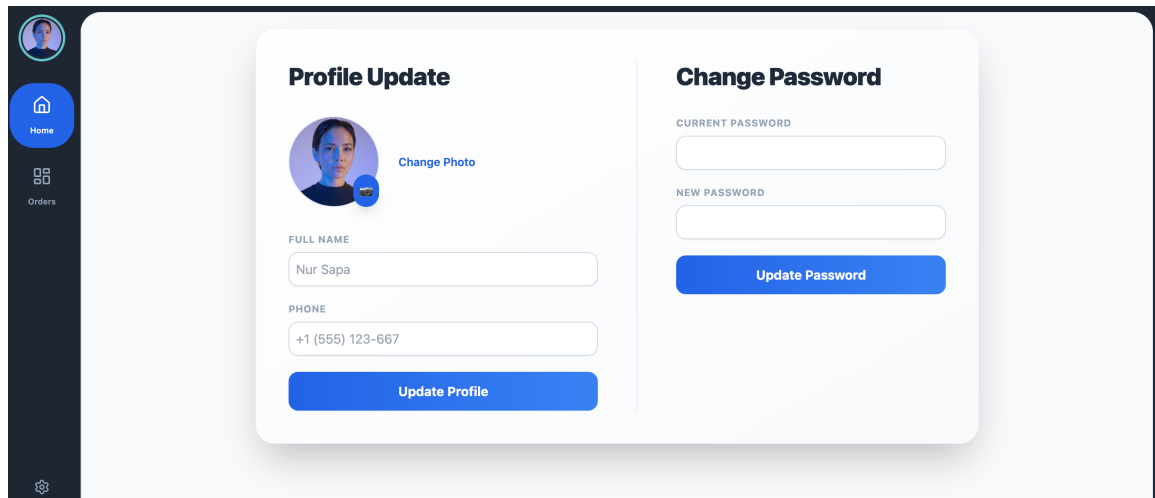
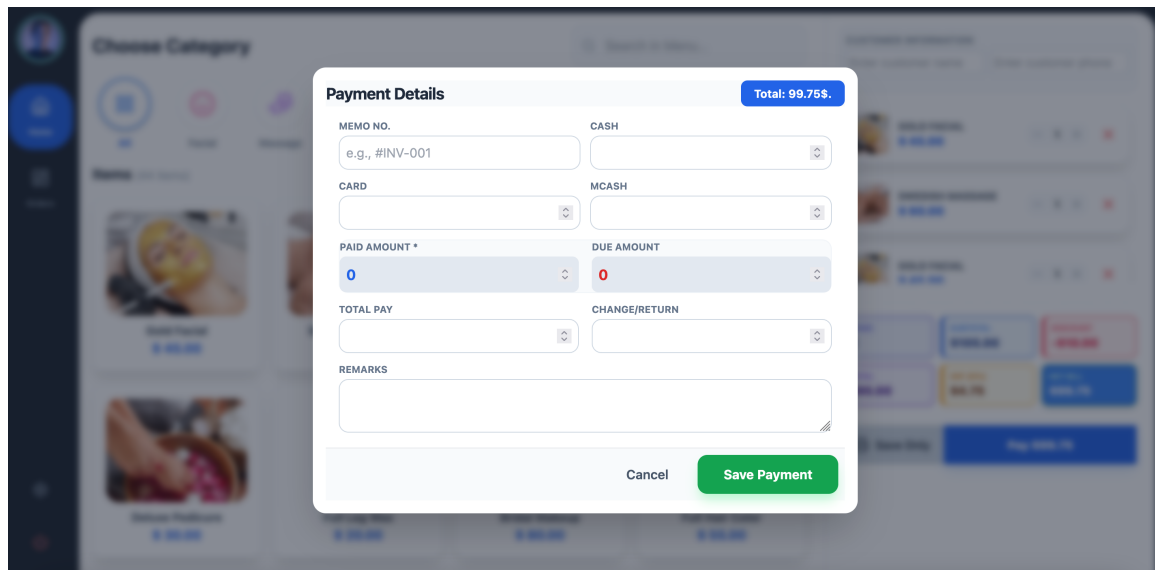


Figure 9.3: Order History



The image shows a user profile management interface. On the left is a dark sidebar with icons for Home, Orders, and a settings gear. The main content area has two panels. The 'Profile Update' panel on the left includes a user profile picture with a 'Change Photo' link, a 'FULL NAME' input field containing 'Nur Sapa', a 'PHONE' input field containing '+1 (555) 123-667', and an 'Update Profile' button. The 'Change Password' panel on the right includes a 'CURRENT PASSWORD' input field, a 'NEW PASSWORD' input field, and an 'Update Password' button.

Figure 9.4: User Profile



The image shows a 'Payment Details' modal form overlaid on a blurred background of a product catalog. The modal has a title bar with 'Payment Details' and a 'Total: 99.75\$.' label. It contains several input fields: 'MEMO NO.' with a placeholder 'e.g., #INV-001', 'CASH' with a dropdown arrow, 'CARD' with a dropdown arrow, 'MCASH' with a dropdown arrow, 'PAID AMOUNT *' with a numeric input showing '0', 'DUE AMOUNT' with a numeric input showing '0', 'TOTAL PAY' with a dropdown arrow, and 'CHANGE/RETURN' with a dropdown arrow. There is also a 'REMARKS' text area. At the bottom are 'Cancel' and 'Save Payment' buttons.

Figure 9.5: Payment Process

9.2 Voting

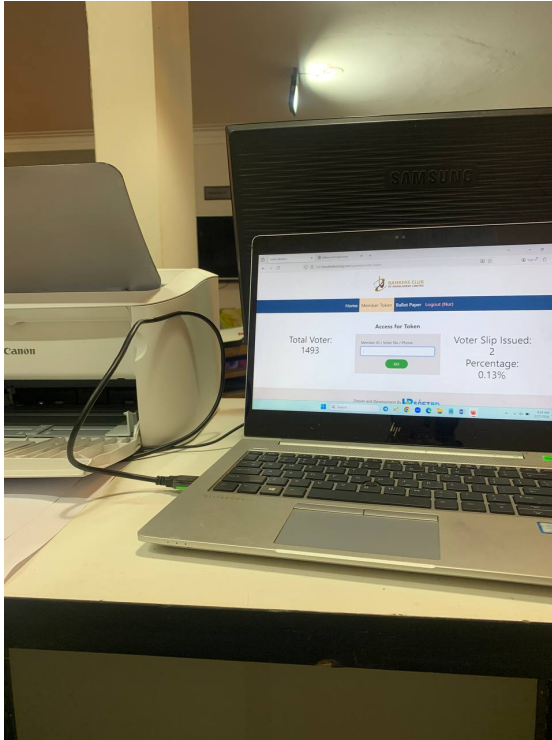


Figure 9.6: Voting Slip



Figure 9.7: Id Card

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HRsoftBD. (2026). *HRsoftBD - Software Development Company in Bangladesh*. <https://hrsoftbd.com/>. (Accessed: April 19, 2026)

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