**Software Requirements Specification**

**Water Connection and Supply**

| **Prepared By** | **Shadhin Lab LLC** |
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**1.** **Introduction**

The purpose of this water Connection system and Supply is to outline the requirements for a water connection website that allows users to apply for new connections, request repairs, and facilitates the entire process from application to payment and feedback. The website aims to streamline the water connection process and enhance user experience.

**Scope**

The water connection system and supply website makes the new connection hassle free for users and experience better for their daily life. This offers a user-friendly website interface for easy navigation, application submission, bill payment, and feedback provision.

This system will consist of the following modules:

* User Registration and Login
* New Connection Application
* Admin Dashboard
* Site Survey and Material Check
* Bill Generation and Sending
* Payment Processing
* Connection Installation
* Review and Feedback
* Repair Application
* Material Procurement for Repairs
* Repair Bill Generation and Sending

**3. System Features (Functionalities)**

**3.1. User Registration:**

| User input | 1.The user navigates to the registration page on the website.  2.Users enter their personal information, such as name, email address,password, phone number, profile image and any additional required information, into the registration form on the website. |
| --- | --- |
| Data Validation | 1. The input data is validated to ensure completeness and correctness. This includes checking that all required fields are filled, verifying the format of email addresses, and enforcing password strength requirements. |
| Confirmation | 1.Upon successful registration, the system can generate a confirmation message or email |
| Dashboard | 1. After registering, the user can login with credentials(email and password) and move further applications. |

**3.2. User LogIn:**

| User input | 1. After being registered, users can log in with valid email and password that was given while creating the account. |
| --- | --- |
| Data Validation | 1. The input data is validated to ensure the correctness. |
| Dashboard | 1. Users can view all the pages of the website properly and take service by applying for specific applications. |

**3.3.Apply for New Connection:**

| User Input(online application) | 1. The user navigates to the apply for new connection section of the website and selects for online application.  2.The system presents a form or section where users can enter basic information including application type,category type, zone, applicant’s name,mobile no,application date,email, NID, address,structure of home, land size etc.  3. The user fills in the required fields and adds any additional relevant information about the event.  4. System verifies if all the required information is filled properly.  4. User verifies the details and proceeds to apply for connection.  5. The system saves the data of applications and notify about the submission. |
| --- | --- |
| Manual application | 1. For manual application, the user will inform the responsible officer coming to the office and ask him to apply for a new connection.  2. The officer will verify the details from him and go to the system's apply for a new connection section and select for manual application.  3. Again the system presents a form or section where users can enter basic information including application type,category type, zone, applicant’s name,mobile no,application date,email, NID, address,structure of home, land size, officer’s name, who is registering etc.  4.The officer fills in the required fields and adds any additional relevant information about the event.  4. System verifies if all the required information is filled properly.  4. User verifies the details and proceeds to apply for connection.  5. The system saves the data of applications and notify about the submission. |

**3.4.Admin confirmation and site survey:**

| Admin | 1. The admin reviews the application and verifies the details for the new connection form.  2. If approved then inform users via mail or call and send workers to site survey. |
| --- | --- |
|  | 1. Workers will visit the site and note down all materials needed and then inform the admin. |

**3.5.Bill generating and sending:**

| Admin input | 1. Admin will go to the bill generating module and give necessary information.  2.The system presents a section that includes material type, material quantity, per unit price etc.  3. After filling up all the material details, the system will generate invoice number and total required bill. |
| --- | --- |
| Inform user | 1. Admin will send the invoice number and the bill through email to the user and ask for payment. |

**3.6. Payment processing:**

| User | 1. If the user wants to make payment online, he will go to the make payment module.  2. Choose the payment gateway(e.g. Bkash etc.)  3. The payment gateway processes the transaction and returns a payment verification status to the website through registered medium. |
| --- | --- |
| Admin | 1. After a successful payment, admin will be notified through registered medium about successful payment. |

**3.7. Connection installation and review:**

| Admin | 1. Admin will send workers to make connections with necessary materials. |
| --- | --- |
| Workers | 1. Workers will give connection properly |
| review | 1. Admin will take review from the user if connections are given properly and how this is performed. |

**5.** **Nonfunctional requirements**

| Performance | 1.The website should load quickly and respond promptly to user interactions.  2.Ensure efficient database queries and optimize server-side processing to minimize response time.  3.Support scalability to handle increased traffic and user activity. |
| --- | --- |
| Security | 1.Implement robust security measures to protect user data and prevent unauthorized access.  2. Use encryption techniques for sensitive information such as login credentials, payment details, and personal data.  3. Implement user authentication and authorization mechanisms to ensure secure access to user accounts and sensitive features. |
| Reliability and Availability | 1.Ensure high availability of the website with minimal downtime or maintenance periods.  2.Implement backup and disaster recovery mechanisms to safeguard data and minimize the risk of data loss. |
| Compatibility | 1.Ensure cross-browser compatibility, allowing the website to work seamlessly on popular web browsers such as Chrome, Firefox, Safari, and Edge.  2.Support compatibility with different operating systems and devices, including desktops, laptops, tablets, and mobile phones. |
| Scalability | 1.Design the architecture to handle a large number of concurrent users and scale the infrastructure as needed. |
| Documentation and Support | 1.Provide comprehensive documentation, including user guides and system documentation, to assist users and administrators.  2.Offer responsive customer support to address user queries and issues in a timely manner. |