**Project Report**

**Solartec – Renewable Energy Website**

**1. Project Overview**

The *Solartec* project is a professional and responsive website designed to promote renewable energy solutions including solar panels, wind turbines, and hydropower systems. The goal of the website is to showcase services and projects, raise awareness, and provide clean and accessible information to potential clients interested in renewable energy in Rwanda.

**2. Technologies Used**

* **HTML5** and **CSS3** for structure and styling.
* **Bootstrap 5** for responsive layout and component styling.
* **Font Awesome** and **Bootstrap Icons** for modern, scalable iconography.
* **Owl Carousel** and **Lightbox** for interactive UI elements like sliders and image viewing.
* **Google Fonts** for typographic design using "Open Sans" and "Roboto".
* **JavaScript libraries** such as wow.js for animated scroll effects and interactivity.

**3. Website Structure**

The website includes the following key sections:

**Header**

* Top contact bar with location, hours, and social media links.
* Navigation bar with links to Home, About, and Services.

**Hero Section**

* Carousel banner with high-impact visuals and text highlighting the brand mission.

**About Section**

* Introduction to the company with background image and text describing experience in the renewable energy sector.

**Services Section**

* Cards representing the core services:
  + Solar Panels
  + Wind Turbines
  + Hydropower Plants
  + Clean Air Initiatives
  + Energy Independence

**Projects Section**

* Interactive portfolio showcasing project images, categories, and pop-up viewing using Lightbox.

**4. Features & Functionality**

* **Responsive Design**: Fully adaptable layout across devices (mobile, tablet, desktop).
* **Interactive Components**: Image carousels, filterable project gallery, and smooth animations.
* **Semantic HTML**: Clean, accessible structure enhancing SEO and screen reader compatibility.
* **Spinner Loader**: Pre-loader for better perceived performance during page load.

**5. Design Prototype**

A **high-fidelity prototype** of the Solartec website was developed in **Adobe XD** to guide the design process. The prototype allowed for:

* Visual planning and layout structuring
* Typography and color palette experimentation
* Wireframing key pages before development

This prototype ensured that the final implementation aligned with UX/UI best practices and improved developer efficiency.