



WIL PRESENTATION

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Abstract

This presentation highlights the work of Jisedai, our project team focused on bringing next-generation technology to web design for an NGO. Through combined expertise—Saneliso Lehlohla on backend, Liam Abraham on frontend, and Hmzah Ballim on documentation—we developed a secure, user-friendly website. Leveraging tools like GitHub, CircleCI, and Teamfu, we ensured smooth development and continuous integration. Hosted on Absolut Hosting, our solution includes a strong security foundation, effective database management, and a clear maintenance plan, aimed at supporting the NGO's mission for years to come.

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Introduction

The name "Jisedai," derived from the Japanese word for "next generation," embodies our commitment to innovation and progressive technology. Our group was formed with the vision of pushing the boundaries of web design and development to create impactful solutions for today's challenges. In our current project, we are dedicated to developing a functional, responsive website that leverages cutting-edge technologies to support an NGO's outreach and effectiveness. Each team member brings a unique expertise, blending full-stack development, design, and documentation to bring our vision to life.

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Jisedai: Members



Leader: Saneliso Lehlohla



Co-Leader: Liam Abraham



Hamzah Ballim

Project Contributors and Responsibilities

**Saneliso
Lehlohla**

- **Backend Development:** Focus on setting up database interactions, managing secure authentication, and implementing business logic using ASP.NET MVC.

**Liam
Abraham:**

- **Frontend Development:** Developed the website's visual elements, user interactions, and responsive design, ensuring accessibility across devices.

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**Hamzah
Ballim:**

- **Documentation:** Created user guides, project documentation, and technical specifications, ensuring the NGO can maintain and update the website independently.

About the NGO: Shadow of His Wings

- Mission: Support individuals in recovery by offering resources and a community to foster their journey to sobriety.
- Website's Purpose:
- Accessible Information: About the NGO's services, contact options, and resources.
- Event Promotion: Details on upcoming events and fundraising opportunities.
- Donation Portal: Online donation functionality to support the organization financially.
- Admin Section: Secure login for the NGO's team to update content and manage user queries.

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DevOps Tools:



Github



Git



CircleCI



TeamFU

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Development Tools and Methodologies

Planning & Task Management:

- **Teamfu** – Task assignment and project timeline planning, breaking down the project into manageable sprints.

Version Control:

- **Git and GitHub** – Centralized version control, facilitating collaboration and allowing seamless rollbacks in case of bugs.

Continuous Integration (CI):

- **CircleCI** – Set up for CI, automating code builds and tests on each commit. This practice minimizes errors and ensures consistent code quality.

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Hosting Services and Infrastructure

Hosting Provider:

- Absolut Hosting – Chosen for its local support and cost-efficiency, with a focus on providing consistent uptime and security.

Funding:

- At first with our own funding eventually, Hosting costs will be supported by donations, with an aim to explore grants for additional funding.

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Security Management

Authentication and Authorization:

- Microsoft Identity: Integrated with ASP.NET MVC for secure role-based access.

Admin-Only Policy: A dedicated role policy restricts sensitive sections like donation management to admins.

- Data Encryption:
- All user data is stored securely using hashed passwords, while sensitive information is encrypted during transmission.

Firewall and SSL:

- SSL Certificates ensure secure data exchange over HTTPS, and firewall rules protect from malicious access attempts.

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Website Structure and Coding Methods

Main Sections:

- Home, About Us, Events, Contact, Donations, Testimonial, Admin Login
- Each section is linked in the navigation bar and dynamically rendered based on user login state.

Coding Methods:

ASP.NET MVC (Model-View-Controller):

- **Models:** Defined data structures for donations, events, and users.
- **Views:** Razor Views for generating HTML, creating a dynamic interface based on the backend data.
- **Controllers:** Controllers handle user requests, processing data, and rendering appropriate views.
- **Razor Views:** Use server-side code to embed C# logic directly in HTML files, creating responsive pages that adjust based on backend data and user authentication status.

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Database Structure and Management

Database Used

SQL Server – Configured within ASP.NET Core using Entity Framework Core, managing user data, donations, events, and contact submissions.

Database Tables:

- Users Table: Stores user credentials, roles, and metadata.
- Events Table: Logs event details, including date, description, and attendee information.

Database Interaction Methods:

- **Entity Framework Core (EF Core)** – Handles all database operations, such as creating, reading, updating, and deleting records. EF Core's migration tools are used to manage schema changes, making it easy to evolve the database as project requirements shift.
- **LINQ Queries** – Used to filter and sort data efficiently within the application, ensuring smooth database interactions.

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Maintenance and Future Plans

Regular Updates:

- Scheduled updates to ensure security patches, new feature releases, and ongoing bug fixes.

Feature Expansion:

- Adding newsletters, donor management tools, and feedback options.

Sustainability Plan:

- Documentation will allow easy handover to new developers or NGO members.

Training sessions for the NGO team, empowering them to update content, manage inquiries, and keep the website up-to-date independently.

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Links

Github Repo -

<https://github.com/ST10031913/WILgroup19>

Our Website -

Teamfu Porject -

<https://teamfu.tech/epics/a73e0c3e-79e2-4ed9-b13a-1fe92565ffdd>

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Questions and Discussion

Any questions?

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Thank You

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