



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.





**01** Introduction

**05** DevOps Tools

**02** Members

06 Methodologies

**03** Contributors

**07** Hosting

04 About NGO

08 Security

09 Website Structure

10 Database Structure

11 Maintainence

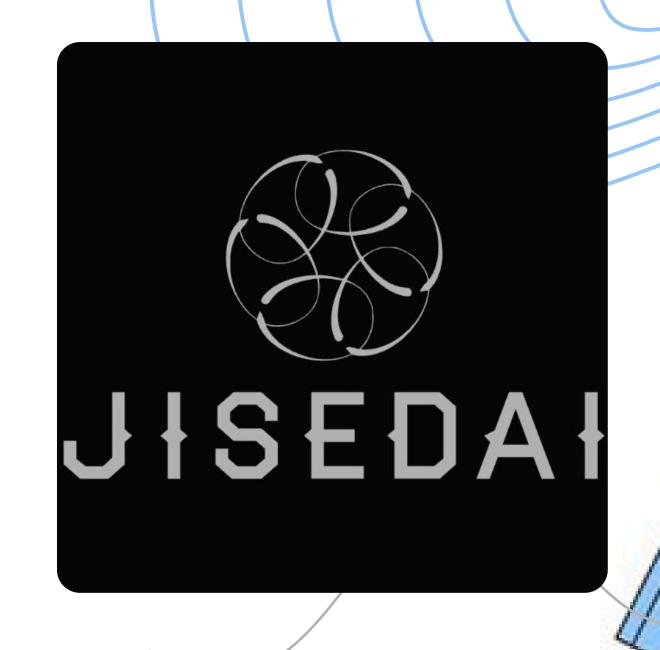
12 Links

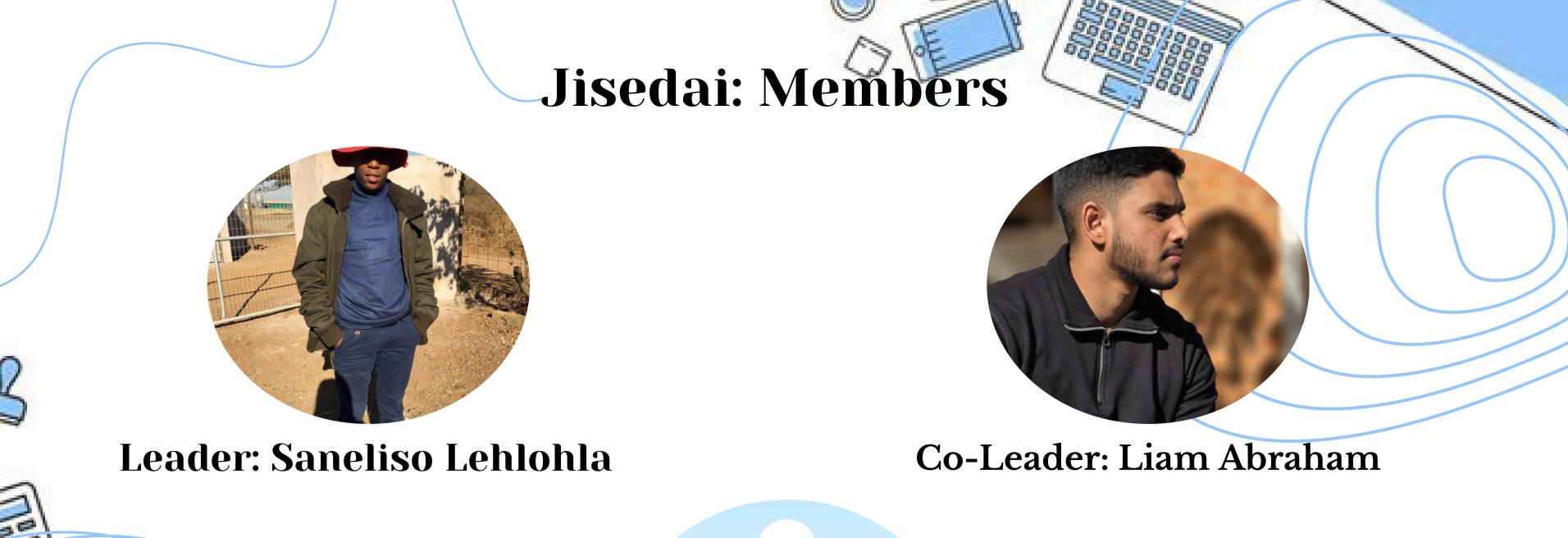
13 Questions



## 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 cuttingedge 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.







## Project Contributors and Responsibilities

Saneliso Lehlohla

Liam Abraham:

Hamzah Ballim:

- Backend Development: Focus on setting up database interactions, managing secure authentication, and implementing business logic using ASP.NET MVC.
- Frontend
  Development:
  Developed the
  website's visual
  elements, user
  interactions, and
  responsive design,
  ensuring accessibility
  across devices.

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



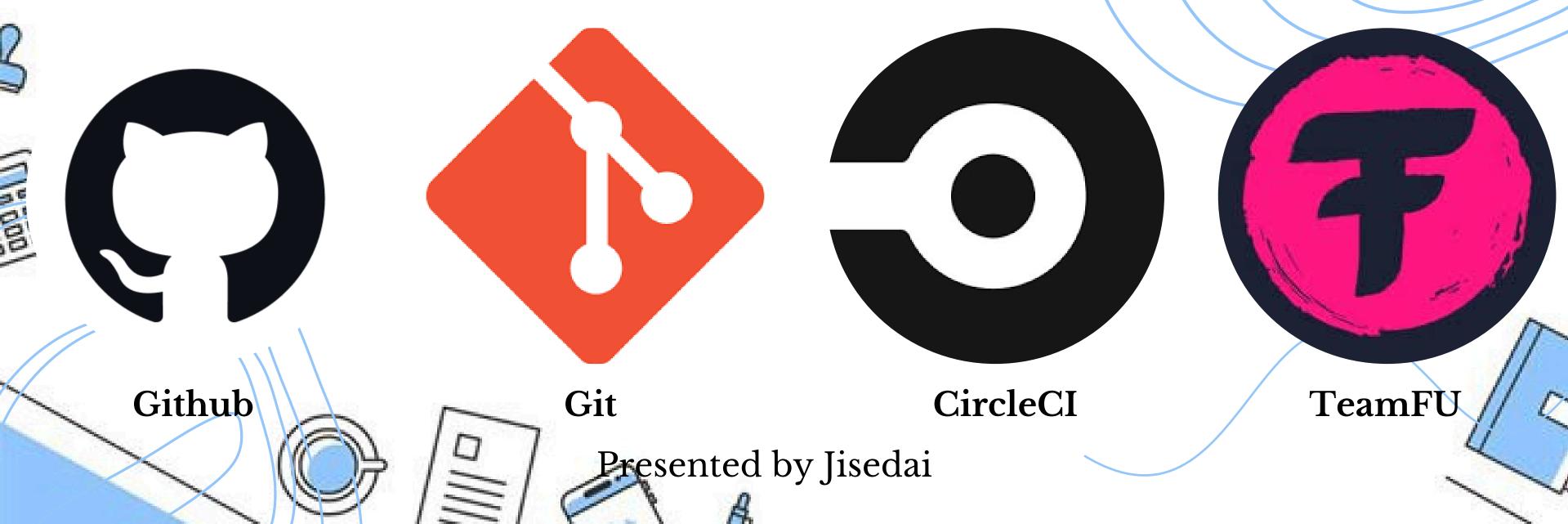
- Mission: Support individuals in recovery by offering resources and a community to foster their journey to sobriety.

  • 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.







# Development Tools and Methodologies

Planning & Task Management:

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

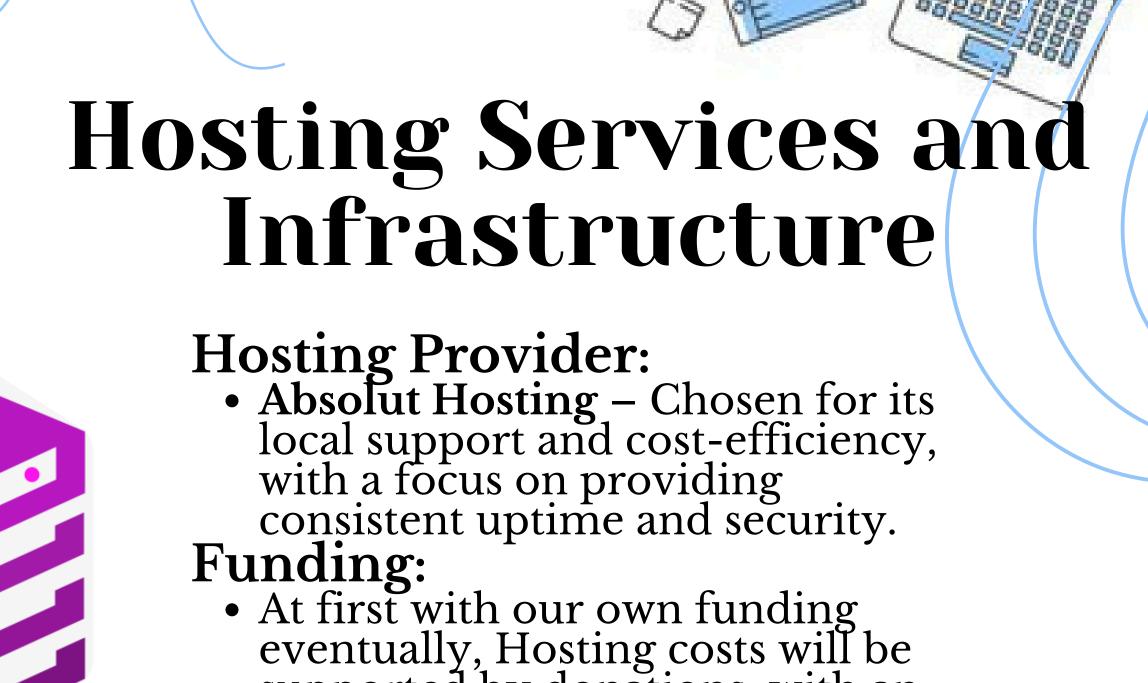
Version Control:

• 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.



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

# 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.



# Website Structure and Coding Methods

## Main Sections:

- Home, About Us, Events, Contact, Donations, Testomonial 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.

# 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 as 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.

# 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 upto-date independently.



