



Web Application to Help People Find and Support Sustainable Businesses

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Introduction



This project addresses the challenges in finding sustainable businesses. Our solution involves a comprehensive web application connecting consumers, investors, and businesses.

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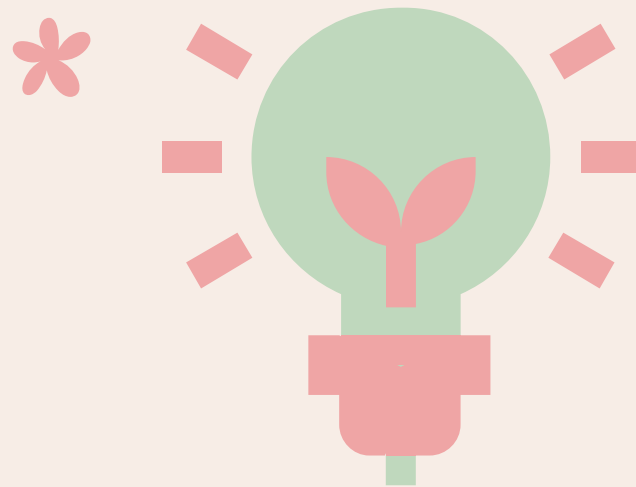
Implementation





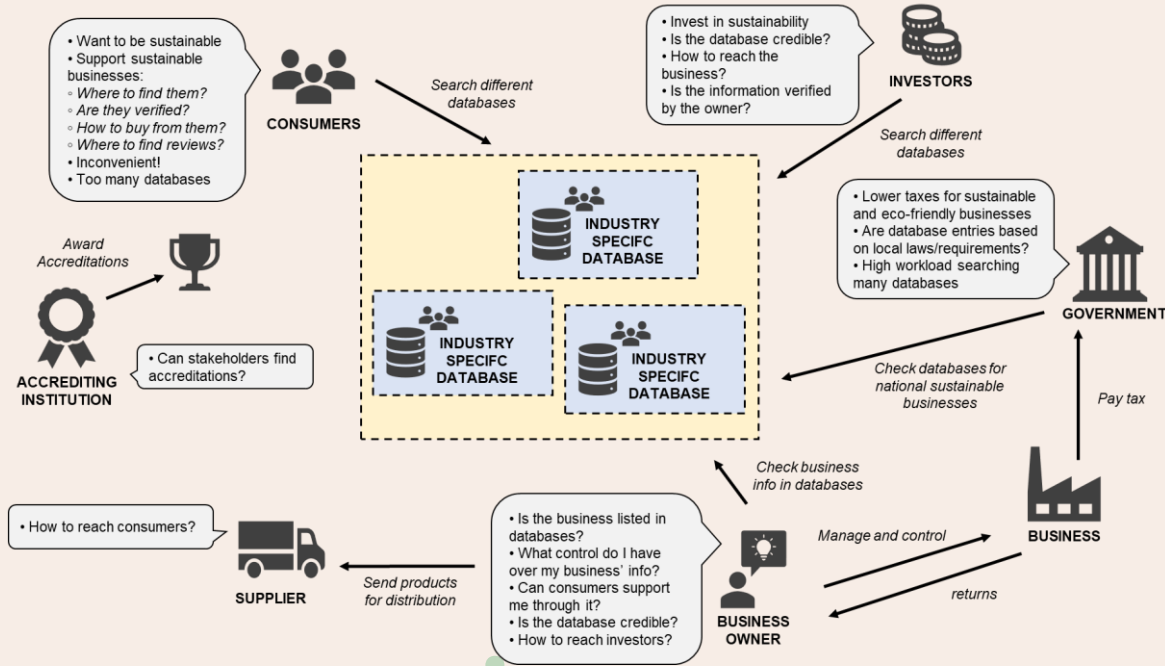
01

Rich Picture



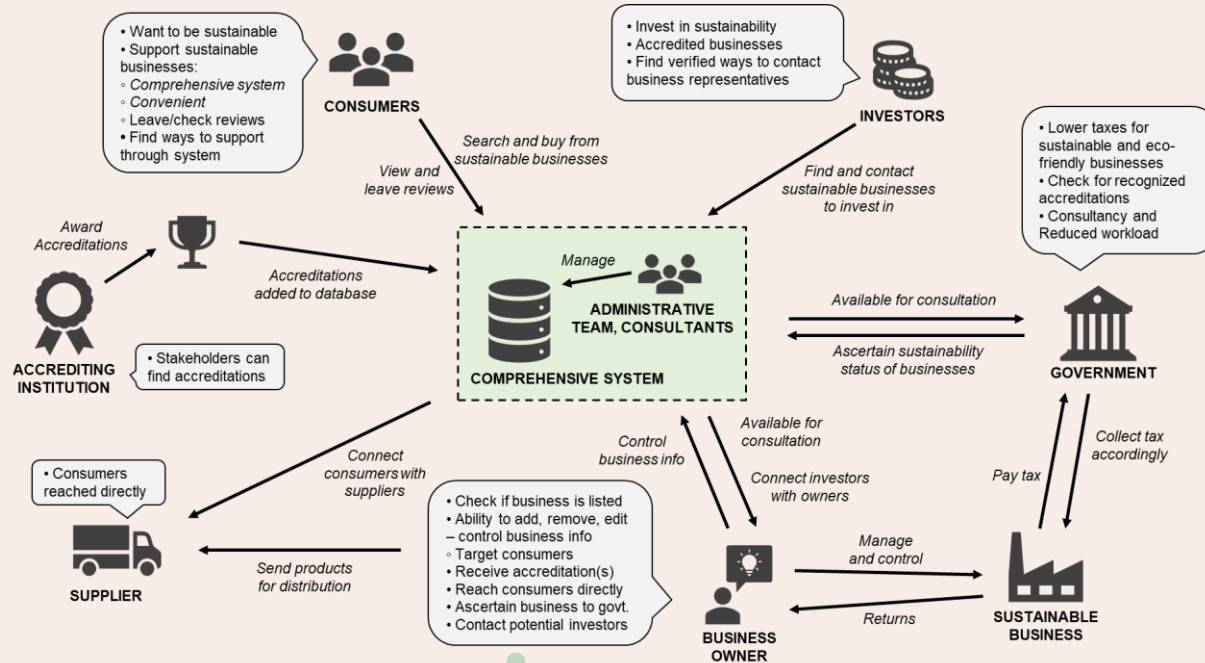
Rich Picture: Existing System

The existing system is complex and inconvenient. Stakeholders search multiple industry-specific databases with credibility concerns. Gaps in the system hinder direct support, communication, and clear data integrity.



Rich Picture: Proposed System

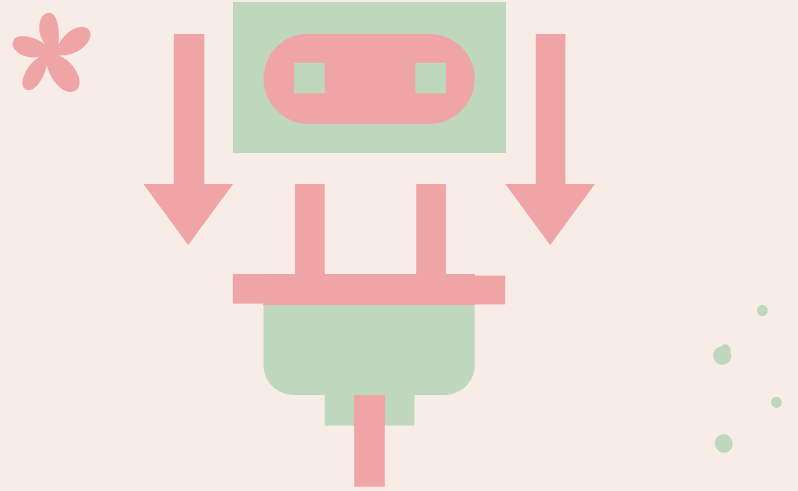
The proposed system enhances service convenience. It establishes links between stakeholders and ensures data credibility. Stakeholders have more control, credibility, and engagement with sustainable businesses.





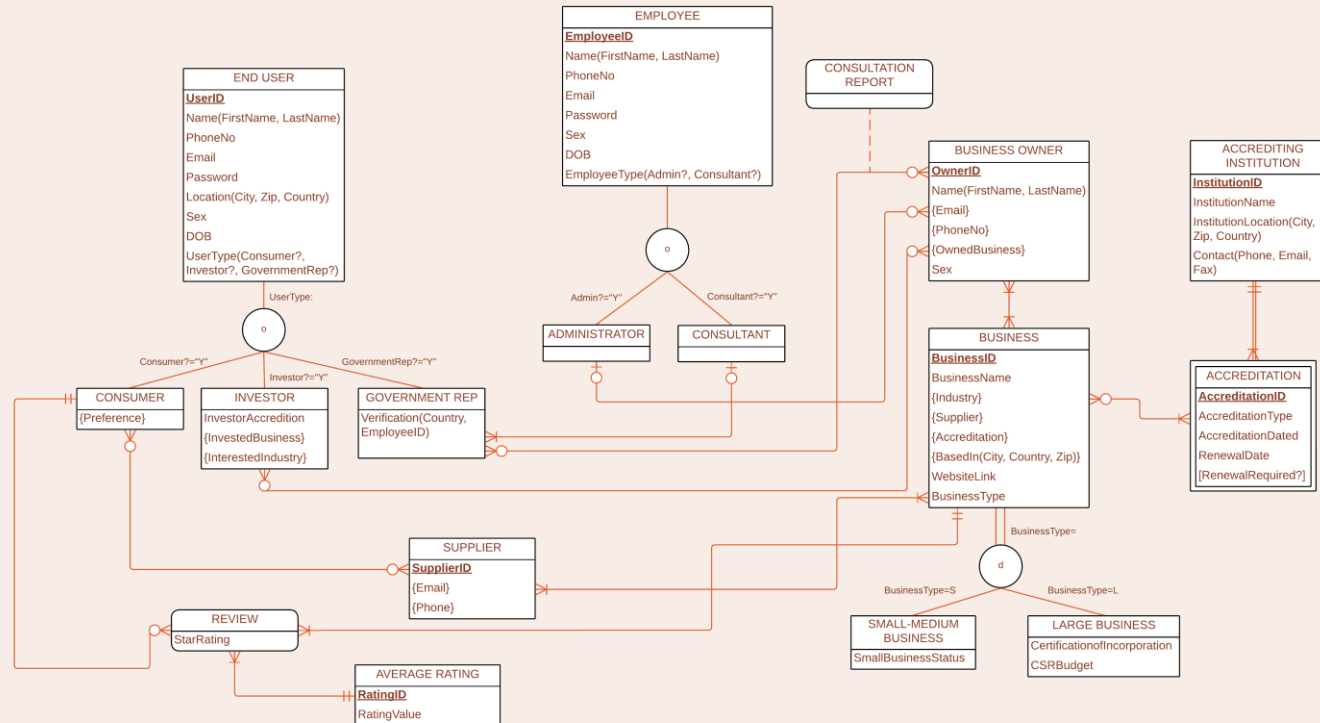
02

Entity Relationship Diagram



Entity Relationship Diagram

The Entity Relationship Diagram (ERD) outlines the data model, entities, attributes, and relationships in the proposed system. It forms the framework for structuring the database.



Business Rules: Extracts



Key Rules:

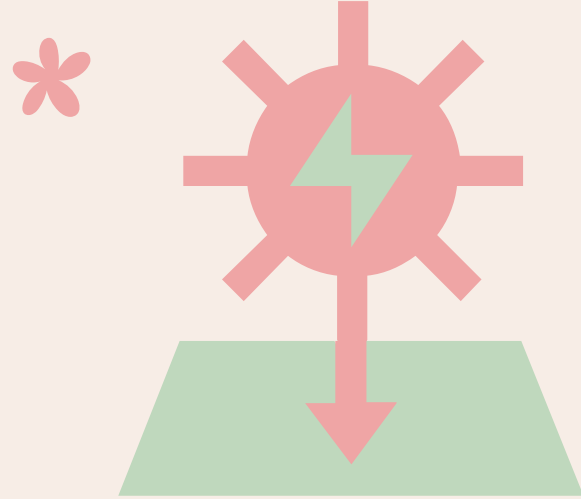
- Business owners can own one or multiple businesses.
- Administrator work with multiple business owners.
- Investors and consumers can search a comprehensive database
- Accreditations are awarded by accrediting institutions.
- Governments can ascertain the sustainability status of businesses.





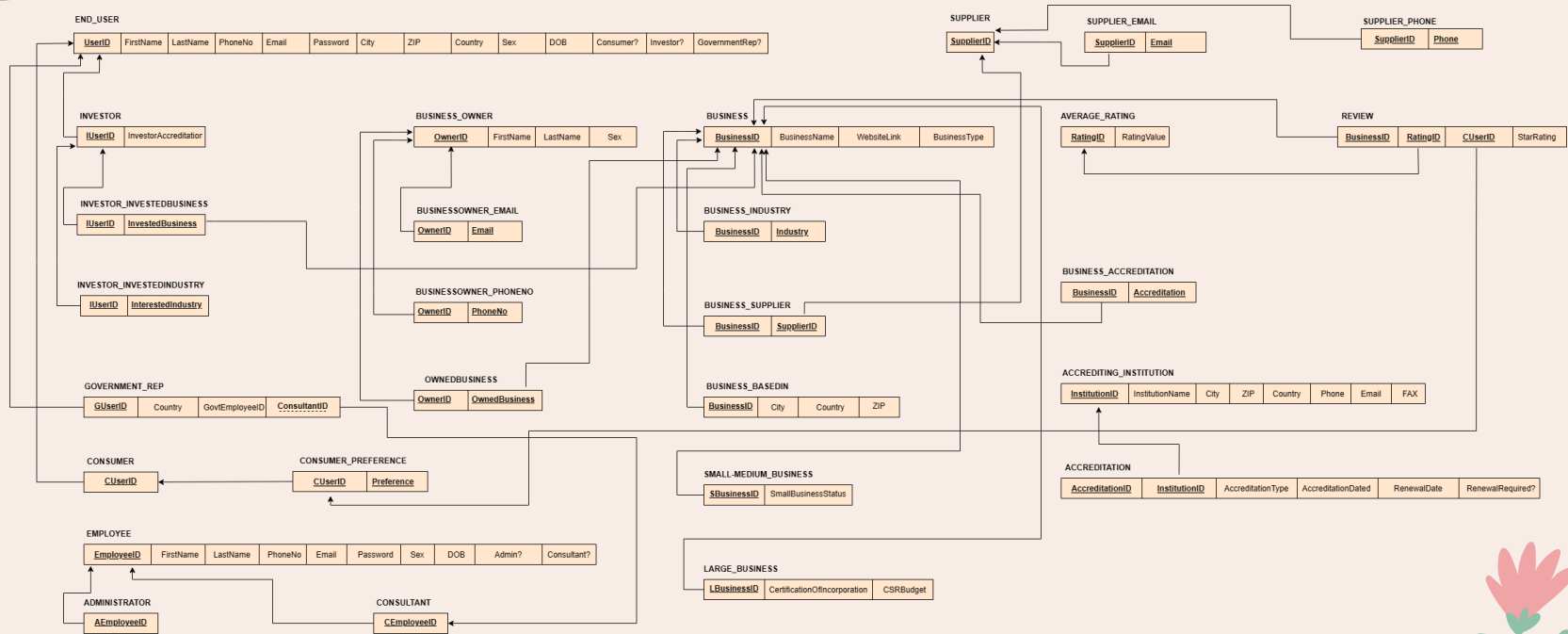
03

Relational Schema



Relational Schema

The Relational Schema logically represents the structure of the proposed relational database. It highlights relations, attributes, and primary/foreign keys.





04

Normalization



Normalization

The schema is normalized to reduce redundancy, organizing data efficiently.

1NF

No repeating groups and at least one primary key

<u>E1</u>	E2	E3	E4	E5	E6	E7	E8	E9	E10
<u>U1</u>	U2	U3	U4	U5	U6	U7	U8	U9	U10
U11	U12	U13	U14	C1	I1	I2	G1	G2	<u>S1</u>
S2	S3	X1	<u>R1</u>	R2	<u>O1</u>	O2	O3	O4	O5
O6	<u>B1</u>	B2	B3	B4	B5	B6	B7	B8	M1
L1	L2	<u>AI1</u>	AI2	AI3	AI4	AI5	AI6	AI7	AI8
<u>A1</u>	A2	A3	A4	A5					

2NF

Partial dependencies are eliminated.

<u>E1</u>	E2	E3	E4	E5	E6	E7	E8	E9	E10
-----------	----	----	----	----	----	----	----	----	-----

<u>U1</u>	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14
-----------	----	----	----	----	----	----	----	----	-----	-----	-----	-----	-----

<u>R1</u>	R2
-----------	----

<u>O1</u>	O2	O3	O4	O5	O6	B1	B2	B3	B4	B5	B6	B7	B8	A1	A2	A3	A4	A5	S1	S2	S3
-----------	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

<u>AI1</u>	AI2	AI3	AI4	AI5	AI6	AI7	AI8
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Normalization

The schema is normalized to reduce redundancy, organizing data efficiently.

3NF

No transitive dependencies

<u>E1</u>	E2	E3	E4	E5	E6	E7	E8	E9	E10
-----------	----	----	----	----	----	----	----	----	-----

<u>U1</u>	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14
-----------	----	----	----	----	----	----	----	----	-----	-----	-----	-----	-----

<u>S1</u>	S2	S3
-----------	----	----

<u>R1</u>	R2
-----------	----

<u>Q1</u>	Q2	Q3	Q4	Q5	<u>B1</u>	Q6
-----------	----	----	----	----	-----------	----

<u>B1</u>	B2	B3	<u>S1</u>	<u>A1</u>	B4	B5	B6	B7	B8
-----------	----	----	-----------	-----------	----	----	----	----	----

<u>A1</u>	A2	A3	A4	A5	A6	A7	A8
-----------	----	----	----	----	----	----	----

<u>A1</u>	A2	A3	A4	A5
-----------	----	----	----	----

BCNF

The relations in 3NF are also in BCNF



05

Implementation



Implemented Tables: Extracts

The image displays three screenshots of the phpMyAdmin interface, illustrating the implemented database tables and their structure.

Top Left Screenshot: Shows the 'Structure' tab for the 'business' database. The 'New' table is selected, and the 'Query results' section displays the following table structure:

Table	Columns
business	BusinessID, BusinessName, WebsiteLink, BusinessType

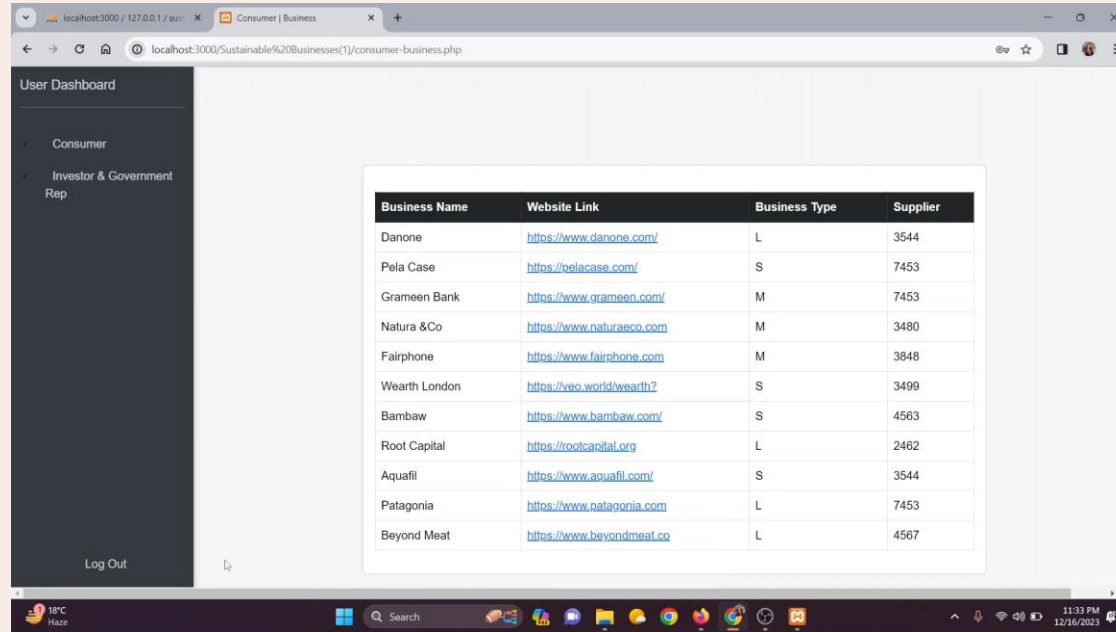
Top Right Screenshot: Shows the 'Query results' section for the 'business' database. The 'Query results' section displays the following table structure:

Table	Columns
business	BusinessID, BusinessName, WebsiteLink, BusinessType

Bottom Screenshot: Shows the 'Structure' tab for the 'business' database. The 'Query results' section displays the following table structure:

Table	Columns
business	BusinessID, BusinessName, WebsiteLink, BusinessType

Demonstration



The screenshot shows a web browser window displaying a 'User Dashboard' for 'Consumer | Business'. The dashboard includes a sidebar with 'Consumer' and 'Investor & Government Rep' options, and a 'Log Out' button. The main content area features a table with business information.

Business Name	Website Link	Business Type	Supplier
Danone	https://www.danone.com/	L	3544
Pela Case	https://pelacase.com/	S	7453
Grameen Bank	https://www.grameen.com/	M	7453
Natura &Co	https://www.naturaeco.com	M	3480
Fairphone	https://www.fairphone.com	M	3848
Wearth London	https://veo.world/wearth?	S	3499
Bambaw	https://www.bambaw.com/	S	4563
Root Capital	https://rootcapital.org	L	2462
Aquafil	https://www.aquafil.com/	S	3544
Patagonia	https://www.patagonia.com	L	7453
Beyond Meat	https://www.beyondmeat.co	L	4567

<https://drive.google.com/file/d/1nEtxpH1U45ZQz57w3RBnpvBIQNI0L3GW/view?usp=sharing>



Thanks

Questions?

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