Collaborative Ecosystem for Student Projects & Businesses.

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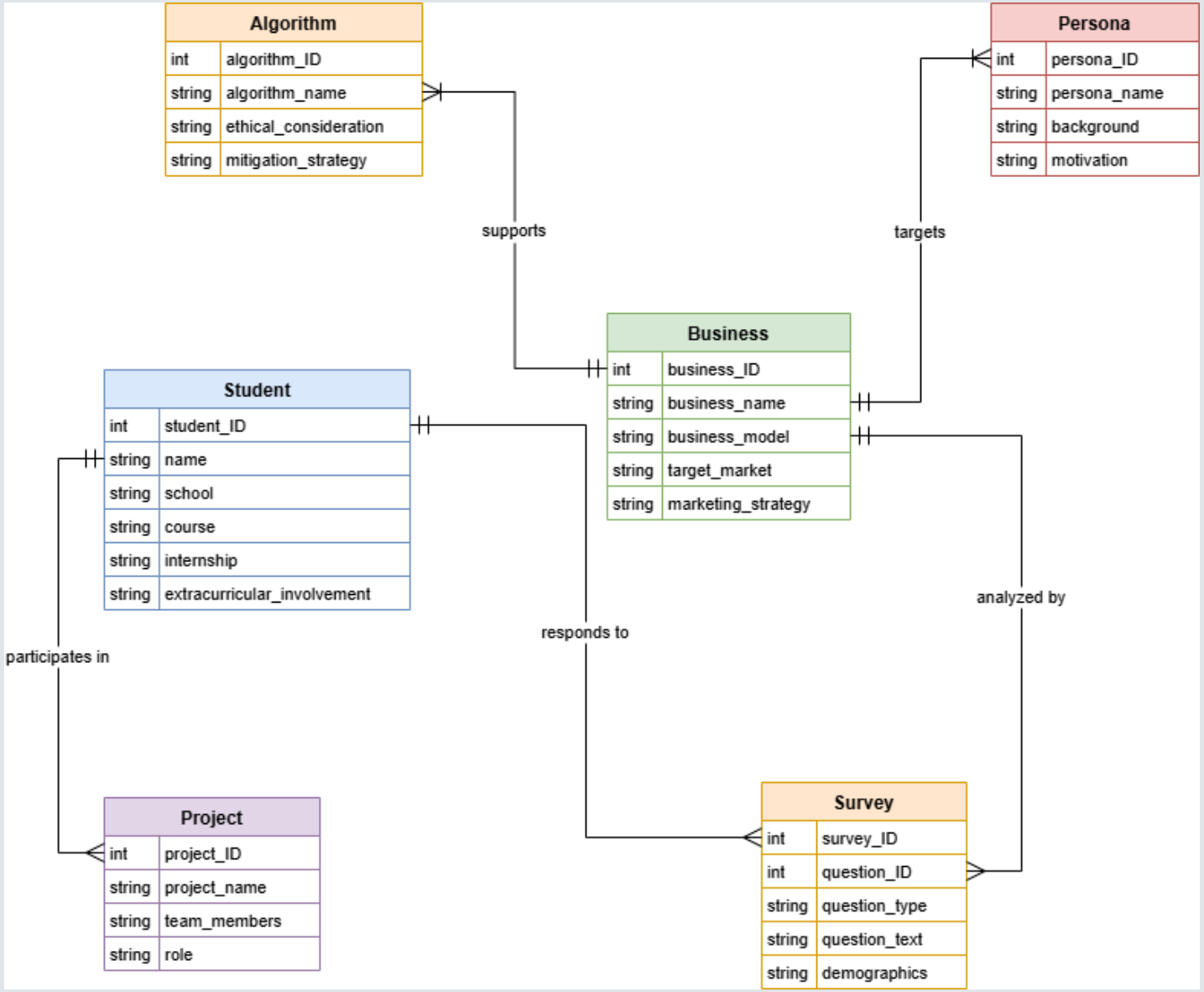
Introduction

- This project is used focuses mainly on for managing and facilitating a collaborative platform that connects students. Its purpose is to create a system where education, industry intersect to achieve mutual benefits.
- It enables students to collaborate on projects that involve real-world business problems.
- Foster data-driven decision-making through the integration of surveys and analysis.
- Provide businesses with insights and support through algorithms, student involvement, and surveys.

ERD


Algorithm
int algorithm_ID
string algorithm_name
string ethical_consideration
string mitigation_strategy
Persona
int persona_ID
string persona_name
string background
string motivation
supports
targets
Business
int business_ID
string business_name
string business_model
string target_market
string marketing_strategy
Student
int student_ID
string name
string school
string course
string internship
string extracurricular_involvement
participates in
responds to
analyzed by
Project
int project_ID
string project_name
string team_members
string role
Survey
int survey_ID
int question_ID
string question_type
string question_text
string demographics

Relationships

1. **Algorithm supports Business**

The Algorithm supports the Business, meaning businesses utilize algorithms to improve their operations, products, or services. For instance, an algorithm might provide predictive analytics, personalized recommendations, or optimize logistics.

- Relationships: 1 to Many

2. **Persona Targets Business**

The Persona targets the Business, indicating that businesses align their strategies to attract specific customer personas. Personas represent groups of people with similar characteristics (e.g., age, income, preferences). Businesses tailor their products, marketing strategies, or communication methods to match the needs of these personas

- Relationships: 1 to Many

Relationships (Contd.)

3. **Student Participated in Project**

A Student participates in a Project, representing a collaboration where students work on various projects as part of their academic or professional experience. This relationship tracks which students are part of which projects and their roles.

Relationship: Many to Many

4. **Business Responds to Survey**

A Business responds to a Survey, indicating that surveys are tools to gather feedback or information from businesses. Businesses might answer questions about market trends, challenges, or customer needs

Relationship: 1 to Many

5. **Survey Analyzed by Business**

A Survey is analyzed by a Business, meaning businesses use survey results to draw insights about their market, customers, or strategies. Surveys can include demographic data, customer preferences, or performance metrics.

Relationship:1to Many

SQL Quries:

1. Retrieve all students and their associated projects

This query retrieves details of all students along with the projects they are participating in. The `Student` table is joined with the `Project` table.

Query:

```
SELECT s.student_ID, s.name, p.project_name, p.role

FROM Student s

JOIN Project p ON s.student_ID = p.project_ID;
```

student_ID	name	project_name	role
1	Alice Johnson	AI Development	Developer
2	Bob Smith	Market Analysis	Analyst

- **Explanation:**

Student` table contains details of students, and `Project` table stores the projects they participate in.

`s.student_ID = p.project_ID`: Assumes a relationship (e.g., foreign key) exists between `Student` and `Project` tables based on `student_ID`.

2. Find businesses targeting specific personas.

This query identifies businesses targeting specific personas based on the `targets` relationship.

- **Query:**

`sql

SELECT b.business_name, b.business_model, p.person_name, p.motivation

FROM Business b

JOIN Persona p ON b.business_ID = p.persona_ID;

business_name	business_model	person_name	motivation
Green Ventures	Eco-Friendly Model	Emma Watson	Sustainability
Tech Innovators	SaaS	John Carter	Technology Innovation

- **Explanation**:

Business` targets `Persona` using a relationship in the ERD.

The query retrieves the name and model of businesses along with the persona name and their motivation.

3. List algorithms used by businesses to support them

This query retrieves all algorithms used by businesses in the `supports` relationship.

- **Query:**

SELECT a.algorithm_name, a.ethical_consideration, b.business_name

FROM Algorithm a

JOIN Business b ON a.algorithm_ID = b.business_ID;

algorithm_name	ethical_consideration	business_name
AI Ethics	Fairness	Green Ventures
Data Privacy	Transparency	Tech Innovators

- **Explanation:**

Algorithm` supports `Business` as per the ERD.

The query displays each algorithm's name, ethical considerations, and the businesses it supports.

4. Identify which students responded to which surveys

- This query retrieves students who have responded to surveys, based on the `responds to` relationship.
- **Query:**

SELECT s.student_ID, s.name, su.survey_ID, su.question_text

FROM Student s

JOIN Survey su ON s.student_ID = su.survey_ID;

student_ID	name	survey_ID	question_text
1	Alice Johnson	1	What is your project role?
2	Bob Smith	2	Rate the business model.

- **Explanation:**

The `Student` table and `Survey` table are connected via the `responds to` relationship.

This query displays the student's name and ID, along with the survey question they responded to.

Thank You