Business & Research Brainstorming

***List of top 3 Business Ideas:***

* Non-for-profit organization that either pays for minorities private health insurance to pay for therapeutic services that aren’t covered by public aid & or require a long wait time to receive services. OR my own therapeutic daycare/ schooling at a discounted rate & or accepting taking public aid. : We have a winner!
* A Reminder watch for elders
* Car Dealership

***Market Research Database website ideas:***

* **Kaggle** (https://www.kaggle.com/datasets): Kaggle offers a variety of datasets across industries.
* **U.S. Census Bureau** (https://www.census.gov/data.html): Provides population, business, and economic data.
* **Data.gov** (<https://www.data.gov/>): Offers datasets from the U.S. government, including business, health, and education data.
* **World Bank Open Data** (<https://data.worldbank.org/>): Good for global economic and industry data.
* **Statista** (<https://www.statista.com/>): Provides statistical data for industries and markets.
* **Google Trends** (<https://trends.google.com/>): Analyze search trends to understand what people are interested in
* <https://datasetsearch.research.google.com/>
* [Pollution Hits Chicago's West, South Sides Hardest - Illinois Answers](https://illinoisanswers.org/2018/10/25/interactive-map-pollution-hits-chicagos-west-south-sides-hardest/)
* [Data Averages - Air Quality Chicago](https://airqualitychicago.org/dashboard/data_averages/)
* [https://www.bing.com/search?q=%2bair+quailty+data+set+in+chicago&filters=rcrse%3a"1"&FORM=RCRE](https://www.bing.com/search?q=%2bair+quailty+data+set+in+chicago&filters=rcrse%3a%221%22&FORM=RCRE)
* [Index of /programs-surveys/popest/tables/2020-2023 (census.gov)](https://www2.census.gov/programs-surveys/popest/tables/2020-2023/)
* [Association between Autism Spectrum Disorder and Environmental Quality in the United States (mdpi.com)](https://www.mdpi.com/2220-9964/13/9/308)

1. What do they do? - Support minorities with therapeutic services to support their individual growth & help them thrive within society.
2. Who are the customers? - Minority neurodivergent kids & teens 18 & under
3. Who are the suppliers? **Health Insurance Companies:** I will need to partner with insurance companies that offer plans that cover therapeutic services. These could be private insurance companies or specialized health insurance plans for minorities.

***Target Market***

**Minorities:** This includes individuals from various racial and ethnic backgrounds who face disparities in healthcare access.

**Individuals with Unmet Healthcare Needs:** This includes those who require therapeutic services that are not covered by public aid or have long wait times.

**Low-Income Individuals:** This group may benefit from your non-profit's assistance in paying for necessary therapeutic services.

Here are some key records I will need to track

***1. Clients (Individuals receiving Insurance Support):***

* ***Basic Information*:** Name, contact information, demographics (optional for reporting purposes)
* **Financial Information:** Income level (for eligibility), public aid information (optional)
* **Health Information (Optional - Maintain Privacy):** Summary of unmet healthcare needs, therapy type needed

***2. Insurance Companies:***

* **Company Name, Contact Information**
* **Plan Details:** Plans offered, covered services (especially therapeutic services)
* **Cost Information:** Premium rates, coverage details, any specific agreements with your non-profit

***3. Funding Sources:***

* **Donor Information:** Individual donors, foundations, grants
* **Donation Details:** Amount donated, date, designation (if any)

***4. Operations (Optional):***

* **Staff Activities:** Track time spent on client intake, insurance applications, etc. (for efficiency analysis)
* **Marketing Efforts:** Track campaigns, outreach programs, and their effectiveness

***5. Reporting (Optional - Aggregate Data):***

* **Client Demographics:** Track trends in race, ethnicity, income levels of recipients
* **Services Provided:** Track types of therapy supported by your non-profit
* **Insurance Coverage:** Monitor effectiveness of different insurance plans
* **Funding Sources:** Analyze donor trends and track grant success rates

**Conceptual Model:**

* **My non-profit acts as an intermediary between clients, insurance companies, and funding sources.**
* **Clients apply for assistance, providing basic and potentially health information (with privacy controls).**
* **Based on eligibility criteria, I can partner with insurance companies to cover therapeutic needs.**
* **Funding from donors and grants supports premium payments and operational costs.**
* **Data is collected throughout the process to analyze impact and improve efficiency.**

**Logical Database Model and Entity Relationship Diagram Entities**

1. **Client** (Primary Key: ClientID)
   * Attributes: Name, Contact Information, Demographics, Financial Information, Health Information
2. **InsuranceCompany** (Primary Key: CompanyID)
   * Attributes: Name, Contact Information, Plan Details, Cost Information
3. **FundingSource** (Primary Key: SourceID)
   * Attributes: Name, Contact Information, Donation Details
4. **Policy** (Primary Key: PolicyID) (Optional - links Clients and Insurance if directly managing policy details)
   * Attributes: ClientID (Foreign Key), CompanyID (Foreign Key), Start Date, End Date (optional)
5. **Donation** (Primary Key: DonationID) (Optional - tracks specific contributions)
   * Attributes: SourceID (Foreign Key), Amount, Date, Designation

**Relationships:**

* **One Client can have Many Policies (Optional):** Links a client to multiple insurance policies if applicable.
* **One Insurance Company can have Many Policies (Optional):** Links an Insurance Company to the policies they offer.
* **One Funding Source can have Many Donations (Optional):** Tracks individual donations from each source.
* **One Client can be associated with Many Donations (Optional):** Links donations made specifically towards a client.

***Diving Deeper into my Non-Profit's Database & Expanding the Conceptual Model:***

**1. Services:**

* Attributes: Service Name, Description, Cost, Provider Information
* Relationships: Many-to-Many relationship with Clients (Clients can receive multiple services, and Services can be provided to multiple Clients)

**2. Providers (Therapists):**

* Attributes: Provider Name, Credentials, Contact Information, Specialization
* Relationships: Many-to-Many relationship with Services (Providers can offer multiple services, and Services can be provided by multiple Providers)

**3. Invoices:**

* Attributes: Invoice Number, ClientID, Date, Total Amount, Items (Details of services provided)
* Relationships: One-to-Many relationship with Services (An invoice can include multiple services)

**4. Payments:**

* Attributes: Payment ID, InvoiceID, Date, Amount, Payment Method
* Relationships: One-to-Many relationship with Invoices (Multiple payments can be made for a single invoice)

**5. Staff:**

* Attributes: EmployeeID, Name, Role, Contact Information
* Relationships: One-to-Many relationship with Clients (A staff member can handle multiple clients)

**6. Settings:**

* Attributes: Parameter Name, Value (e.g., eligibility criteria, payment thresholds)

**Data Types:**

* **Text:** For names, descriptions, and other textual information
* **Numbers:** For numerical values like IDs, costs, and quantities
* **Dates:** For dates and times (e.g., invoice dates, payment dates)
* **Boolean:** For yes/no values (e.g., is active, is paid)

**Normalization:** Normalizing my database to reduce redundancy and improve data integrity. Dividing large tables into smaller, related tables. For example, separating client contact information into a separate table.

**Query Examples:**

**Find clients who have received a specific service:**

SQL

SELECT c.name

FROM clients c

JOIN services\_clients sc ON c.clientid = sc.clientid

WHERE sc.serviceid = 'YourServiceID';

**Calculate the total revenue generated by a specific provider:**

SQL

SELECT p.name, SUM(s.cost) AS total\_revenue

FROM providers p

JOIN services s ON p.providerid = s.providerid

JOIN invoices i ON s.serviceid = i.serviceid

GROUP BY p.name;

Additional Diagram Concepts.

**Entities**

* **Customer**
  + Attributes: CustomerID (PK), Name, Contact Information, Address, Email, Phone Number
* **Transaction**
  + Attributes: TransactionID (PK), CustomerID (FK), Date, Total Amount, Status (e.g., pending, completed, refunded)
* **Product**
  + Attributes: ProductID (PK), Name, Description, Price, QuantityInStock, Category
* **Service**
  + Attributes: ServiceID (PK), Name, Description, Price, Duration
* **Vendor**
  + Attributes: VendorID (PK), Name, Contact Information, Address
* **Employee**
  + Attributes: EmployeeID (PK), Name, Role, Contact Information, Salary

**Relationships**

* **One-to-Many:**
  + Customer to Transactions
  + Customer to Services (if services are directly linked to customers)
  + Vendor to Products (if products are purchased from vendors)
  + Employee to Transactions (if employees are assigned to transactions)
* **Many-to-Many:**
  + Customer to Products (if customers can buy multiple products)
  + Employee to Services (if employees can provide multiple services)

**Additional Considerations:**

* **Transaction Details:** You might want to include more details in the Transaction entity, such as payment method, shipping address, and transaction items.
* **Inventory Management:** If you're selling products, you'll need to track inventory levels and update them when products are sold or purchased.
* **Service Bookings:** If you're offering services, you might need a separate entity to track service bookings, including appointment times and staff assignments.
* **Employee Roles:** Define different roles for your employees (e.g., manager, sales representative, customer service) to manage permissions and assign tasks.