**DELIVERABLE 1: DSBA 6160- DATABASE SYSTEMS FOR DATA SCIENTISTS**

Group 4:

* Siri Dhatri Panuganti
* Unique Kumtap
* Jessica Ricks
* Shahryar Karimi
* Hridita Rubyat
* Vishaal Sai Devisetty

**AppName**: Blissify

**Use Case:**

Every year, the United Nations Sustainable Development Solutions Network publishes the World Happiness Report, which uses surveys and other data sources to present a thorough analysis of the state of well-being around the world. Its conclusions provide insightful information on the social, political, and economic aspects that affect people's happiness and can guide the development of policies meant to enhance both individual and society well-being. With three distinct audience segments, the "Blissyfy" app serves a different function for every use case. The distinct target market that we are aiming for:

**For World Health Organization:** The WHO can utilize the app's data to improve clinical health in the unhappiest countries. The WHO can then analyze this list and take the appropriate action in each of the countries. To guarantee that people have improved access to high-quality healthcare, WHO can then determine the best ways to construct medical facilities.

**For Travelers:** Both risk-taking and free travelers can use the app's data to choose the country they wish to visit. Based on their high satisfaction ratings, independent travelers can select the nation they wish to visit. Travelers who are willing to take chances and experience something unusual, on the other hand, would select nations that offer the least amount of dystopia and offer opportunities for adventure.

**For Students and Immigrants:** Families planning to immigrate to a new nation and students hoping to pursue further education overseas may find the app helpful. These viewers would make their decisions based on the GDP and freedom figures of the various nations. Additionally, since the Corruption score might be decisive, they would want to check it. Students can have a greater knowledge of each country's political and economic landscape, as well as the degree of freedom and safety they might anticipate, by taking all these elements into account.

**Business Rules:**

Initially we had only 5 excel sheets for the years (2015, 2016, 2017, 2018, 2019). So, our base table was combining all the years into one excel sheet and by cleaning the data. We then figured out that our base table had to be broken down, so we snipped this one excels sheet into multiple. Finally, we arrived at the following tables: BASE, SOCIOECONOMIC, DYSTOPIA, COUNTRY, TRUST, USER. A brand-new, randomly generated table is the USER table. An ID column that is generated is present in all the other tables. Like how every nation is compared to the least happy, we have developed a new value called UTOPIA that compares every nation to the happiest. There were a few rules that we had to follow:

1. All the Dimensions (SOCIOECONOMIC, DYSTOPIA, COUNTRY, TRUST, USER, CRIME RATE, CULTURAL FACTORS) are represented as separate dimension tables.
2. Each country must have one and only one country\_id.
3. Each user should fall into one of the categories (Traveler, Student/Immigrant, WHO).
4. dystopia\_id, socio\_id, trust\_id, user\_id, country\_id, cultural\_id, crimerate\_id should be unique values and they are the primary keys in the dimension tables.
5. Each of the dimension tables have a one-to-one relationship to our BASE TABLE.
6. Entries in SOCIOECONOMIC, DYSTOPIA, COUNTRY, TRUST, CULTURALFACTORS, CRIMERATE tables should be only from all\_years tables and no new entrees.
7. Each country has a different trust\_id, dystopia\_id, socio\_id, cultural\_id, crimerate\_id for a different years.

A diagram of a company

Description automatically generated**Entity Relationship Diagram:**

**Data Dictionary:**

**BASE table:**

ID: Primary Key

Year: Year in which the survey was conducted.

Rank: Rank of the Country in each year

Score: Happiness score based on the survey

Country\_id: Foreign Key Link to Country Table

Dystopia\_id: Foreign Key Link to Dystopia Table

Socio\_id: Foreign Key Link to Socio Economic Table

Trust\_id: Foreign Key Link to Trust Table

User\_id: Foreign Key Link to User Table

**COUNTRY Table:**

Country\_id: Primary Key

Country\_name: Name of the Country

**USER Table:**

User\_id: Primary Key

User\_name: Name of the Person using the survey results for his/her use case

User\_category: Student/Traveler/Immigrant/WHO

**DYSTOPIA Table:**

Dystopia\_id: Primary Key

Dystopia\_Residual: difference of each country’s happiness score from the hypothetical least happy nation. Larger the difference, happier is the nation.

Utopia\_Residual: difference of each country’s happiness score from the hypothetical most happy nation. Larger the difference, sadder is the nation.

Z-Score: Standard Deviation from the Mean which remains the same for Dystopia and Utopia.

**SOCIOECONOMIC Table:**

socio\_id: Primary Key

GDP\_Capita: Metric that breaks down a country’s GDP per person

Family: Factor contributing to Evaluating Happiness

Life\_Expectancy: Average Life Span of people in each country.

**TRUST Table:**

Trust\_Id: Primary Key

Freedom: higher the value of freedom, happier is the nation. One of the six factors contributing to determine happiness.

Gov\_Corruption: One of the six factors contributing to determine happiness. Lesser the trust value of people with the government, more corrupted is the nation.

Generosity: One of the Factors that contribute to making life evaluations higher in each country.

**CRIMERATE Table:**

crimerate\_Id: Primary Key

crimerate\_value : A factor that directly effects the social well being and happiness of an individual

**CULTURALFACTORS Table:**

cultural\_id: Primary Key

socialsupport\_index: The Social Support Index measures the perceived availability of support from friends and family in times of need, and it is positively correlated with an individual's happiness as it provides a buffer against life's stresses and challenges.