Final Project: Project Ideas

1. **Create a GitHub repo for your project. In that repo add a "Documentation" folder. In that folder create a document called "Project ideas"** **(2 points)**

<https://github.com/DavidCadmielVasiu/Group-9-final-project-.git>

1. **Include the name of all of your team members in the document to be submitted (2 points)**

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1. **List the source of and describe at least 4 potential data sets** **(8 points)**

**1: Life expectancy /when to move**

[**https://www.who.int/data/gho/data/indicators/indicator-details/GHO/life-expectancy-at-age-60-(years)**](https://www.who.int/data/gho/data/indicators/indicator-details/GHO/life-expectancy-at-age-60-(years))

This data set shows the life expectancy at birth and life expectancy at age 60. This data comes from the last 19 years of data from many different countries on different continents, starting with 2000, then 2010, 2015, and 2019. The data is also split into three categories (for life expectancy at birth and life expectancy at age 60); the categories are “both sexes”, “male”, and “female”.

**2: Household air pollution**

[**https://www.who.int/data/gho/data/themes/topics/topic-details/GHO/household-air-pollution**](https://www.who.int/data/gho/data/themes/topics/topic-details/GHO/household-air-pollution)

This data set displays the number of deaths attributable to household air pollution resulting from solid fuels for cooking such as wood, coal, animal dung, charcoal and crop wastes. The data comes from almost every country around the world and includes both males and females. Each country has a breakdown of medical conditions caused by air pollution, such as lower respiratory infections, lung cancer, ischaemic heart disease, stroke and chronic obstructive pulmonary disease.

**3: Relationship between youth drinking and maximum BAC**

[**https://www.who.int/data/gho/data/indicators/indicator-details/GHO/legal-blood-alcohol-concentration-(bac)-limits**](https://www.who.int/data/gho/data/indicators/indicator-details/GHO/legal-blood-alcohol-concentration-(bac)-limits)

[**https://www.who.int/data/gho/data/indicators/indicator-details/GHO/15-19-years-old-current-drinkers-(-)**](https://www.who.int/data/gho/data/indicators/indicator-details/GHO/15-19-years-old-current-drinkers-(-))

The relationship between youth drinking and maximum legal BAC gathers a dataset concerning what are the legal limits, per country, in BAC for the general public, for young drivers as well as for commercial drivers. The dataset concerning youth drinkers shows, per country, what proportion of 15-19 year olds consume alcohol with any degree of regularity. This data is then further split up into male and female categories.

**4:Rental laws by state**

[**https://www.avail.co/education/laws/**](https://www.avail.co/education/laws/)

The source contains an analysis of rental laws per state with the exception of the following states: Alaska, Montana, Wyoming, North and South Dakota, Nebraska, West Virginia, Delaware, Vermont and Maine. It contains a series of standardized policies such as are there laws requiring notice before entry, are receipts required for rent and deposit payments as well as are there limits on late fees and do these late fees need to be in the rental agreement.

**5: Is college for you: a cost benefit analysis**

**(**[**https://www.bls.gov/charts/usual-weekly-earnings/usual-weekly-earnings-over-time-by-education.htm**](https://www.bls.gov/charts/usual-weekly-earnings/usual-weekly-earnings-over-time-by-education.htm)**)**

This data shows the median usual weekly earnings of full-time wage and salary workers that are 25 years and over by educational attainment, and quarterly averages. The data obtained spans over 2 decades, starting from 2000 to 2020, including data for 4 quarters every year. The data table breaks down into 4 groups of people: those who obtained less than a highschool diploma, highschool graduates who did not attend college, those with some college or associate degree and those with a Bachelor’s degree and higher.

**6: job gain/loss by state**

**(**[**https://www.bls.gov/charts/business-employment-dynamics/gross-job-gains-gross-job-losses-by-state.htm**](https://www.bls.gov/charts/business-employment-dynamics/gross-job-gains-gross-job-losses-by-state.htm)**)**

This data shows the gross job gains and job losses by state, in the 2nd quarter (April, May, June) of 2020 (seasonally adjusted). It splits the data by state (Alabama to Wyoming, including Puerto Rico), and gives the number of job gains and job losses.

\*\*Seasonally adjusted means that the data is smoothed over, instead of having giant spikes during specific time frames, it smooths out the data over a larger chunk of time.

**7: Suicide Rates per 100,000 population**

[**https://www.who.int/data/gho/data/indicators/indicator-details/GHO/crude-suicide-rates-(per-100-000-population)**](https://www.who.int/data/gho/data/indicators/indicator-details/GHO/crude-suicide-rates-(per-100-000-population))

This dataset describes suicide rates per 100,000 people in different countries.  It contains one bar chart, which shows the highest rates on the right and the lowest on the left.  The X axis contains all of the countries in the dataset.  The Y axis represents the suicide rate ranging from 0-80 as the highest.  Also each country in the bar chart has a specific color that is associated with the region or continent it is located in.

1. **Identify who your customer/s would be** **(8points)**.

The customers are highly dependent upon the selected project. In the case of global life expectancy, it would inform those who are either retiring or planning to raise a family as to potential places to move to. The household air pollution documentation is aimed at those who have cardiac issues or worry about living in an area with high air pollution. The relationship between youth drinking and maximum BAC is for society at large in order to see the influence of culture upon policy-making. Rental laws by state should be helpful to anyone who is taking a new job in a different state to be aware of protections and obligations they might have as a renter. The increase in earnings by education could benefit high schoolers to know if college is something they would like to aspire to from a purely financial perspective. Next, job loss and gain by state would let local governments know which states have had policies and programs that have survived Covid better than others and could help prepare for future pandemics.  Lastly, suicide rates could be utilized by psychiatrists who want to help particular countires with high depression rates.

1. **Describe the problem that each proposed project solves and justify its need** (**10 points**)

1. **Life expectancy /when to move:**

The problem that this proposed project solves is knowing where you would potentially want to move to have the best “quality/ length” of life. Another problem this solves is where you would want to move after or before the age of 60. This data shows both the life expectancy at birth and at 60 years. This project would give valuable information to individuals or families that want a better quality of life (assuming better life expectancy = better quality of life) by comparing which countries have the highest life expectancies, and which countries (for the past 19 years) have improving life expectancy or declining life expectancy.

2. **Household air pollution:**

Since the number of deaths attributable to household air pollution results from solid fuels for cooking, it is essential to address what solid fuel each country is using and the health risks associated with the use. Considering houses within the same area in a country use similar appliances and similar fuels for cooking, people looking to move into a new country can compare data between other countries and see where it would be safest to move.

3. **Relationship between youth drinking and maximum BAC:**

The problem being addressed is a global comparison between the incidents of youth drinking and inebriation laws. By highlighting countries where there is a match in severity for both and those where there are discrepancies, societies with drinking problems can then look to those without such discrepancies to see if there is a cultural standard that accounts for that. Ultimately this should allow for a more informed national conversation by looking at countries where that laws match the reality of the situation and the intent of their writing.

4. **Rental laws by state:**

The problem being addressed is a need for concise and transparent information pertaining to tenant rights, responsibilities and recourse. How these apply per state can serve as a helpful addition to someone who is planning on moving and could conceivably factor into their decision of where to live.

5. **Is college for you: a cost benefit analysis:**

The problem being addressed is whether or not students could continue on with their education or not. Students who are approaching the end of their highschool career may be unsure if they want to continue on with college or stop after they graduate high school. Some college students may think getting a Bachelor’s degree may not be worth it so they might drop out after several semesters without completing the full 4 years and going even further.

6. **Job gain/loss by state:**

The problem that this project would solve is needing to know which states have been affected the most by Covid-19, concerning job gains and job losses. This could help people become knowledgeable about which states were affected the worst (highest jobs losses and lowest job gains), and either move from or avoid such states during times of crises. Also, this could help governments and businesses plan for the future when making economic decisions. This data is from the 2nd quarter of 2020 (April, May, June), arguably one of the worst times for the economy during the Covid-19 pandemic. The need for this project is great, so that we can make informed decisions when making economic decisions that will affect us (citizens/ customers) in a positive way.

**7.** **Suicide Rates per 100,000 population**:

The problem that this proposed project solves is organizations that help people who suffer from depression.  These organizations will be able to find specific countries that are suffering from high rates of sucide and potentially have their focus shifted towards helping  in that country.  If these mental health organizations had more of a focused area, instead of the entire United States.  Then they would be able to have a greater impact on decreasing suicide rates in that area.  If all mental health organizations utilized this concept of focusing on specific areas, then suicide rates could ultimately decrease across the globe.  This is needed because therapy or counseling can be very beneficial and many areas across the globe have limited access to these resources.  In conclusion, if mental health organizations utilized this dataset to target specific countries with high suicide rates.  Then the countries where suicide is most prevalent will gradually have there suicide rate decrease.

1. **State the product vision and how your web based project would be useful to society (8 points)**

**1: Life expectancy/when to move:**

The vision is to provide information to individuals and families that want a country or location that has a high life expectancy at birth and at the age of 60. This would help people make informed decisions on where to move, and where they would want to retire. This product would allow people to choose a location that not only has a good life expectancy but a track record of an improving life expectancy, and avoid countries that have a decline in life expectancy.

**2: Household air pollution:**

The product vision is to compare different countries’ number of deaths caused by household air pollution so users can decide if they want to move to that specific country or not. The web based project would be useful to society because for people who already have pre-existing health conditions such as lung cancer, the air pollution inside the house can make it worse. Before they decide where they want to move, they might want to avoid countries that have a high mortality rate from household air pollution. If a person with asthma wants to compare 4 different countries and see which country has the lowest number of total deaths and lowest number of lung cancer deaths caused by air pollution, they would be allowed to do so.

It would also be useful for companies who are trying to implement new appliances that would reduce the number of deaths in that specific country. The product vision is to compare stoves and materials that a specific country uses compared to a country with lower mortality rates. Addition of chimneys would also reduce the number of deaths. In developing countries, the houses may not have ventilation flow throughout the house and stoves are not ideal which contributes to a higher number of deaths.

**3: Relationship between youth drinking and maximum BAC:**

The vision for the product is to have a compiled list of where the greatest distances would be between severity of BAC limitations and incidents of youth drinking. This should help identify which societies laws seem to be sensibly implemented and which ones are in need of adjustment while conveniently giving those who need changes cultural examples to look to.

**4: Rental laws by state:**

The vision for the product is a compiled list of the laws regarding landlord-tenant relationships and their variation per state. This would allow for more transparency and allow both landlords and tenants to make more informed decisions and could also potentially help cut down on unintended criminality.

**5: Is college for you: a cost benefit analysis:**

The product vision is to create a database where users can compare different job medians with the degree they have obtained to see if it is worth paying for college in consideration to what they will be making. It would be useful to people who are unsure if they want to pay tuition to get their degree compared to what they will be making in the future or to those that feel like dropping out and see the reward after.

**6: Job gain/loss by state:**

The vision for this product is to provide information to people, governments, and businesses about job gain/ loss so that they can make informed decisions when making future economic plans. This is especially important for crises and situations where high job loss is probable. Looking at which states had the highest job losses and lowest job gains during the 2nd quarter of 2020 can give us profound insight on which states were least affected by Covid-19 (economically) and why. This would point governments and businesses in the right direction to gather information on why certain states were affected more than others (negatively). This would help society as a whole, because the strategies that states with high job gain and low job loss could be analyzed and used in other states/ countries to help with economic recovery and preparation for similar crises.

**7: Suicide Rates per 100,000 population:**

The purpose of this project would be to showcase the varying suicide rates across the world by specific countries.  This project would help to solve the problem of the shortage of mental health organizations or resources in countries with high suicide rates.  These organizations could view this dataset and focus on particular countries with high suicide rates and a low amount of resources for mental health. With this in mind, countries with high suicide rates could gradually experience a decrease in these rates.

1. **Identify the major features of each of the proposed projects.** **(12 points)**

**1: Life expectancy/when to move:**

The features for this project would include a graph that plots each country with their average life expectancy (a graph from birth, and a separate graph from age 60) during the past 19 years (2000 - 2019) for both sexes. Another feature would be to view which countries had the highest percentage increase and decrease in life expectancy, both from birth and from age 60. You can also view the life expectancy for each country in tabular form. The table would include life expectancy from the following years 2000, 2010, 2015, and 2019, for male and female averages, as well as both sexes (averaged together). All this would be split by life expectancy from birth and from age 60.

**2: Household air pollution:**

Some of the major features would be a comparison between several countries and the type of health condition that is present caused by household air pollution. The user could search and compare certain factors, such as deaths caused by lung cancer due to air pollution, or total deaths.

**3: Relationship between youth drinking and maximum BAC:**

Major features of the project would include a display, the ability to sort the and search the data by country, by maximum BAC, by drinking rate and by relative position of severity.

**4: Rental laws by state:**

Major features would include a display, the ability to filter information by state, to track by each of the laws categorized and to rank each state as to whether they, on average, lean more towards tenant friendliness or landlord friendliness.

**5: Is college for you: a cost benefit analysis:**

Some of the major features would be to compare what each degree, or the lack of a certain degree would mean for a student's future. They will be able to enter the major they are interested in, the degree they hope to attain, and their tuition they are currently paying. The program would display how much the student is going to pay to attain a certain degree and the average amount they would make in the end.

**6: Job gain/loss by state:**

The features for this project would include a graph that plots each state and displays the jobs gained and lost during the 2nd quarter of 2020. The user could also view the data in tabular form. The table would include a row for each state with their corresponding job gains and job losses. For both the table and graph the user will be able to sort by highest job gain and lowest job gain, as well as highest job loss and lowest job loss.

**7: Suicide Rates per 100,000 population:**

To begin, one of the major features that could be utilized for this project would be the ability of users to type in specific countries to get there suicide rates.  Secondly, the user could be able to compare suicide rates between many different countries.  Next, they could find countries that have the biggest increase in suicide rates over a year long period.  Lastly, they could view the amount of psychiatrists that are in a specific country so that they could target countries that have limited access to psychiatrists.