# Proposed Project Name

Team Members: Ersi Zha, Yezhuo Zhu, Jiaqi He

# Project Idea

Our group plans to make visualization in global economic field. First of all, we will provide an overview on Gross Domestic Product (GDP) of different countries around the world. Also we will present the GDP growth trend of several countries. Second, we will analyze the annual GDP growth rate of several countries and rank these statistics. Third, GDP consists of a couple of aspects. So we will research the relationship between GDP and three aspects, which include agriculture & rural development, urban development and environment. Based on the research, we will make a comparison of different countries.

Questions about the data：

1. The data collected from the data source is not integrated at some years, which brings troubles to ranking and presenting economic statistics of different countries.

2. The relationship between GDP and the data in three aspects, which include agriculture & rural development, urban development and environment, do not follow the economical rule strictly. We need to make the analysis on the special data or eliminate the noisy data.

# Data

We plan to utilize the data sources from The World Bank Organization (<http://data.worldbank.org/>). Our data sources contain Gross Domestic Product, annual Gross Domestic Product growth, agriculture & rural development, urban development and environment.

GDP,GDP annual growth, GDP per capita,

Urban population growth, Urban population, Rural population, Rural population growth

Agricultural land (% of land area),

Agricultural machinery, tractors per 100 sq. km of arable land,

Forest area (% of land area),

CO2 emissions, Electricity production from oil, gas and coal sources (% of total),

Vehicles (per km of road),

School enrollment, primary (% gross),

School enrollment, secondary (% gross),

School enrollment, tertiary (% gross),

Labor force with tertiary education (% of total)

Unemployment, total (% of total labor force),

Population ages 15-64 (% of total),

GINI index

# Project Team

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| Team Members | Workload Distribution |
| Ersi Zha  (33.3%) | 1. Studying javascript programming and reading papers.  2. Visualization of GDP and agriculture & rural development.  3. Analyzing the relationship between GDP and agriculture.  4. Paper writing. |
| Yezhuo Zhu  (33.3%) | 1. Studying javascript programming and reading papers.  2. Visualization of GDP and urban development.  3. Analyzing the relationship between GDP and urban development.  4. Paper writing. |
| Jiaqi He  (33.3%) | 1. Studying javascript programming and reading papers.  2. Visualization of GDP and environment.  3. Analyzing the relationship between GDP and environment.  4. Paper writing. |

# Related Work

C. Healey and J. Enns, “Attention and Visual Memory in Visualization and Computer Graphics”, IEEE Transactions on Visualization and Computer Graphics, 2011 (Pre-print).

J. Mackinlay, “Automating the Design of Graphical Presentations of Relational Information”, ACM Transactions on Graphics, 5(2): 110-141, 1986.

Anne Treisman and Garry Gelade (1980). "A feature-integration theory of attention," Cognitive Psychology, Vol. 12, No. 1, pp. 97-136, 1980.

A. Lleras, R. A. Rensink, and J. T. Enns, “Rapid resumption of an interrupted search: New insights on interactions of vision and memory,” Psychological Science, vol. 16, no. 9, pp. 684–688, 2005.

R. A. Rensink, J. K. O’Regan, and J. J. Clark, “To see or not to see: The need for attention to perceive changes in scenes,” Psychological Science, vol. 8, pp. 368–373, 1997.

P. Rheingans, “Task-based color scale design," Proceedings of Applied Image and Pattern Recognition, pp. 35-43, 1999.