Hi there everyone, this is group 13 and our data challenge is from Encyclopedia. The topic we choose to work on is relating to the First Industrial Revolution.

The dataset we got was the texts of Edition 1 to 8 of Encyclopedia, and we found that the time between 1768 and 1860 also saw the process of the whole first industrial revolution, where the transition to new manufacturing processes had led to an unprecedented rise of income and population.

This is also the reason why we chose to make a VR game that aims to vividly introduce the rapid growth of manufacturing and related technologies of the first industrial revolution as well as its impact on people’s life.

We first chose 4 topics that we think are related to industrial revolution , and searched for the proportion of the related words per billion word in each edition.

The first one is Energy and minerals. We all know that a major change in the iron industries during the Industrial Revolution was the replacement of [wood](https://en.wikipedia.org/wiki/Wood) and other bio-fuels with coal. This column shows the massive use of various kinds of mineral, especially iron that strongly supported Britain’s manufacturing at that time.

In the second bar of machines we could see that the development of the [stationary steam engine](https://en.wikipedia.org/wiki/Stationary_steam_engine) was so important an element of the Industrial Revolution that it also prompted the development of mobile roads and rail [locomotives](https://en.wikipedia.org/wiki/Locomotive) and [steam boats](https://en.wikipedia.org/wiki/Steamboat).

As for people’s living at that time, we could find out that cotton was consumed more and more, and the growth of the modern industry since the late 18th century led to massive [urbanisation](https://en.wikipedia.org/wiki/Urbanisation) and the rise of new great cities as well as housing.

However industrial revolution also had some negative effects. The lack of clean water and gutters overflowing with sewage from basement made workers and their families vulnerable to lots of infectious diseases. Also,big industrial cities began pumping vast quantities of pollution into the atmosphere, making the living environment even worse.

And next we are going to show our attempt to make this game in order to visually show what the data has told us.

In the creation of the game scene, we built a city during the first industrial revolution in **Unity** based on the words chosen by our group.

 As you can see, the scene shows the architecture of the Industrial Revolution period and some important signs of that period such as "steam engine” and steam ships.

At the same time, we use smoke and fog in the city to reflect on some environmental pollution problems. There will be different animations and sounds in the scene. Players can use VR to simulate residents walking on the street, and interact with the area where the cue signs in the scene are located by touching, observing or picking up actions to unlock the corresponding animation.

And next my group mate is going to talk about the implement of our VR game.