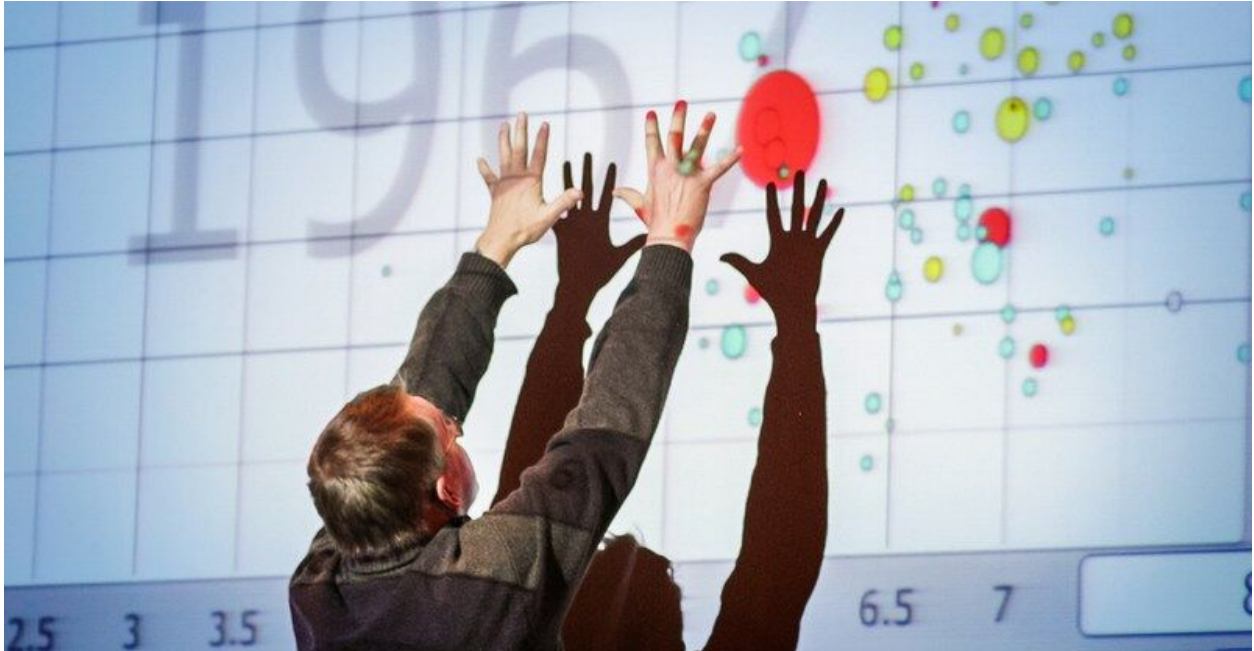# 6.835 Term Project Proposal

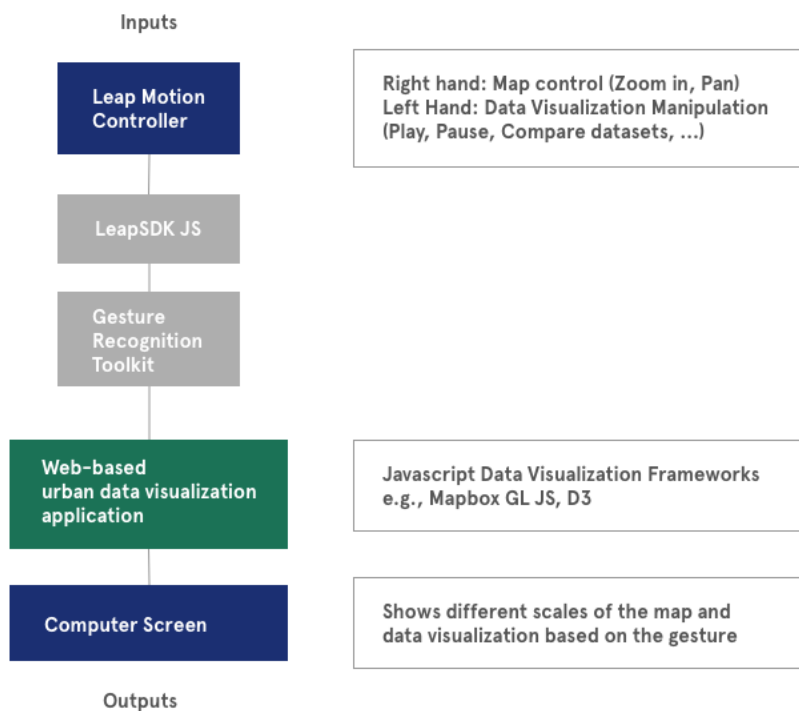**Group members**

Wonyoung So

Hans Rosling's TED Talk

How possibly an urban data visualization story and the exploratory data analysis can be manipulated and effectively delivered using gestural interfaces? How can a presenter who deliver the urban data visualization combine linear-based data storytelling with exploratory data analysis?

In urban data visualization, a web-based map has been used with other graphical layers such as boundaries with colors, buildings, roads, visual elements. and so on. In general, manipulating an urban data visualization story requires complicated interactions where a user has to explore different scales in the map, compare different cities, play and pause temporal data, and so on. However, because of the limitation that the modern computer interfaces—keyboard and mouse have dominated—had, the way people present their urban data visualization story has been limited, and even simplified into one dimension. Even recently, utilizing scrolling interaction has been one of the most popular method of web-based data visualization, thus eliminating a chance for users to dig into the data and obtain insights.

This project proposes a way to interact with an urban data visualization when a presenter delivers their data story using gestural interfaces, and especially proposes a way of combining a linear storytelling with exploratory data analysis--especially in urban data visualization context, it could

be about setting different scales and examining spatiotemporal data. Like the legendary statistician and physician Hans Rosling, I hope an urban data researcher could elegantly present their work using this gestural interface.

Basic architecture

Inputs

Leap Motion Controller

Right hand: Map control (Zoom in, Pan)
Left Hand: Data Visualization Manipulation
(Play, Pause, Compare datasets, ...)

LeapSDK JS

Gesture Recognition Toolkit

Web-based urban data visualization application

Javascript Data Visualization Frameworks
e.g., Mapbox GL JS, D3

Computer Screen

Shows different scales of the map and
data visualization based on the gesture

Outputs

(Perhaps I can develop more on how I could integrate speech into this project, but I hope I could learn more this week as the thing about speech will be dealt in the class)