데이터 과학

160407 - Data_Visualization

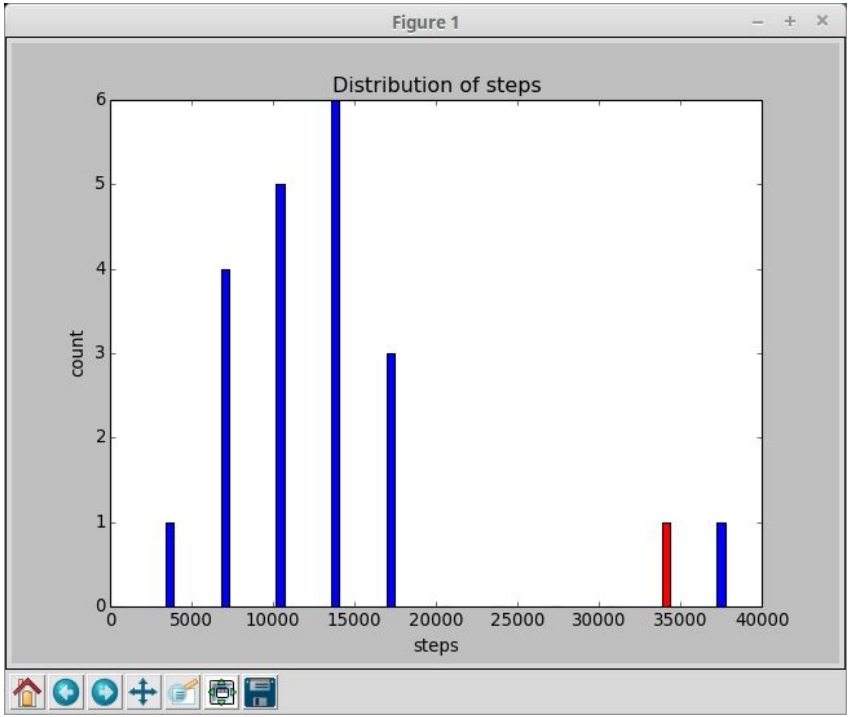
목표

1. Python을 이용한 Visualization

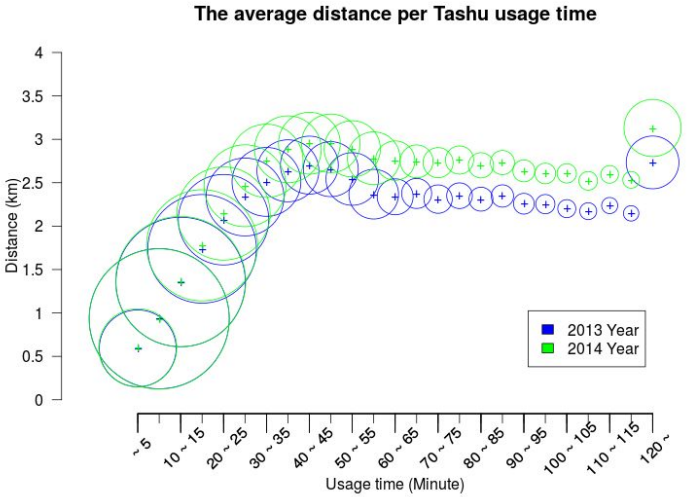
2. R을 이용한 Visualization

3. D3.js를 이용한 Visualization

Python을 이용한 Visualization

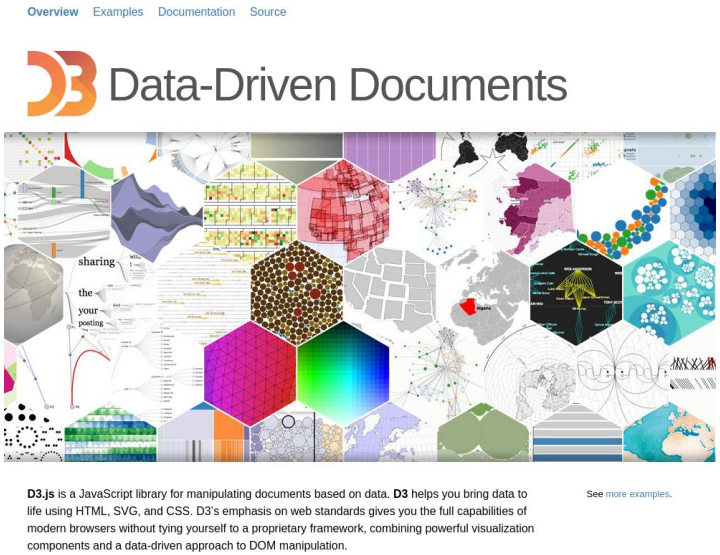


R을 이용한 Visualization



D3.js를 이용한 Visualization

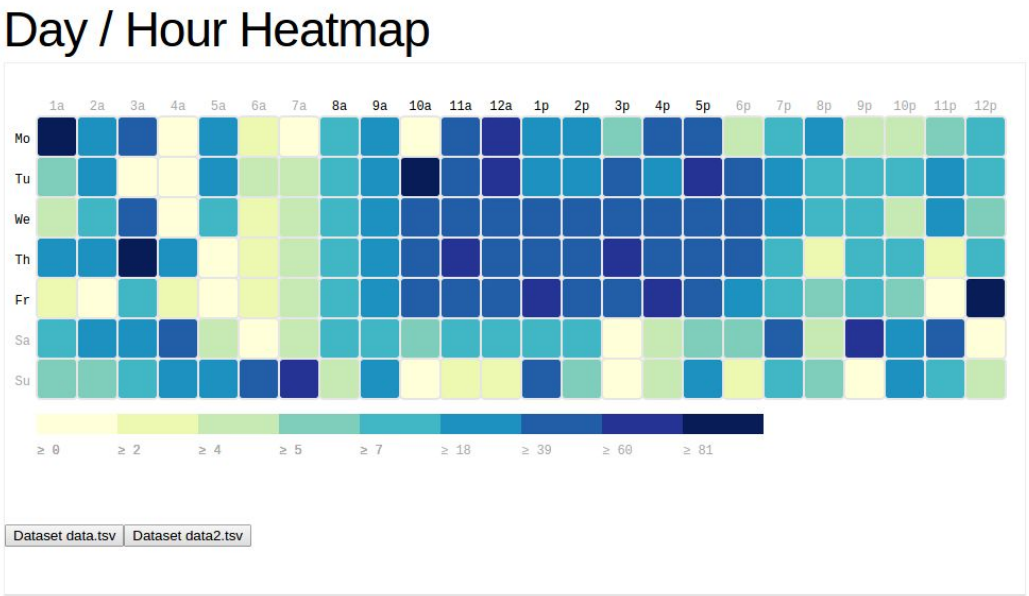
- Data-Driven Documents
  - http://d3js.org/



D3.js를 이용한 Visualization

- SVG(Scalable Vector Graphics)를 이용
  - HTML5 기반
  - 축소/확대를 해도 깨지지 않음
- 웹 표준기술을 이용

D3.js를 이용한 Visualization



csv, json, tsv

sokulee@dnlab: ~/FitAPI_crawler/public

File Edit View Search Terminal Help

```
letter  frequency

200802091       115689
200902218       164124
201102512       179411
201202132       56953
201202133       112730
201203400       122175
201302457       88747
201304382       80112
201304385       431938
201402326       190051
201402406       139288
201502036       118141
                        1,1           All
```

Terminal

File Edit View Search Terminal Help


```
{"activities-steps":[{"dateTime":"2015-11-01","value":"14062"}],"activities-steps-intraday":{"dataset":[{"time":"00:00:00","value":0},{"time":"00:01:00","value":0},{"time":"00:02:00","value":0},{"time":"00:03:00","value":0},{"time":"00:04:00","value":0},{"time":"00:05:00","value":0},{"time":"00:06:00","value":0},{"time":"00:07:00","value":0},{"time":"00:08:00","value":0},{"time":"00:09:00","value":0},{"time":"00:10:00","value":0},{"time":"00:11:00","value":0},{"time":"00:12:00","value":0},{"time":"00:13:00","value":0},{"time":"00:14:00","value":0},{"time":"00:15:00","value":0},{"time":"00:16:00","value":0},{"time":"00:17:00","value":0},{"time":"00:18:00","value":8},{"time":"00:19:00","value":11},{"time":"00:20:00","value":0},{"time":"00:21:00","value":0},{"time":"00:22:00","value":0},{"time":"00:23:00","value":0},{"time":"00:24:00","value":0},{"time":"00:25:00","value":0},{"time":"00:26:00","value":0},{"time":"00:27:00","value":0},{"time":"00:28:00","value":0},{"time":"00:29:00","value":0},{"time":"00:30:00","value":0},{"time":"00:31:00","value":0},{"time":"00:32:00","value":0},{"time":"00:33:00","value":0},{"time":"00:34:00","value":0},{"time":"00:35:00","value":0},{"time":"00:36:00","value":0},{"time":"00:37:00","value":0},{"time":"00:38:00","value":0},{"time":"00:39:00","value":0},{"time":"00:40:00","value":0},{"time":"00:41:00","value":0},{"time":"00:42:00","value":0},{"time":"00:43:00","value":0},{"time":"00:44:00","value":0},{"time":"00:45:00","value":0},{"time":"00:46:00","value":0},{"time":"00:47:00","value":0},{"time":"00:48:00","value":0},{"time":"00:49:00","value":0},{"time":"00:50:00","value":0},{"time":"00:51:00","value":0},{"time":"00:52:00","value":0},{"time":"00:53:00","value":0},{"time":"00:54:00","value":0},{"time":"00:55:00","value":0},{"time":"00:56:00","value":7},{"time":"00:57:00","value
"2_20151101_steps.json" [noeol] 1L, 43642C                    1,1           All
```

과제

- Q1. Python을 이용한 Visualization + (분석내용)
- Q2. R을 이용한 Visualization + (분석내용)
- Q3. D3.js를 이용한 Visualization+ (분석내용)

과제 제출

- 과제 제출 기한: 2016. 04. 13. 18:00
  - 실습 하루 전 18시
- Google Classroom에 제출
  - E-mail이 아닌 Classroom
- 보고서 제목 : DC_학번_이름_06.pdf
- 추가 첨부파일 : DC_학번_이름_06.zip

제출 파일 내용

- DC_학번_이름_실습번호.zip
  - 각종 소스코드
  - 그 외 파일
  - 보고서는 .pdf (**DC_학번_이름_실습번호.pdf**)
  - .hwp/.doc 등 채점 안 함
- 파일 이름 준수!
  - 파일 이름이 다를 경우 채점 안 함

보고서

- 과제를 해결한 방법
  - 주요 소스코드 포함 및 주석
- 과제를 해결하기 위해 알아야 하는 것
- 결과 화면 캡쳐와 설명
- 기본적으로 보고서는 자신이 직접 과제를 해결했다는 것을 증명하기 위함