

“Analytics on Career in STEM”

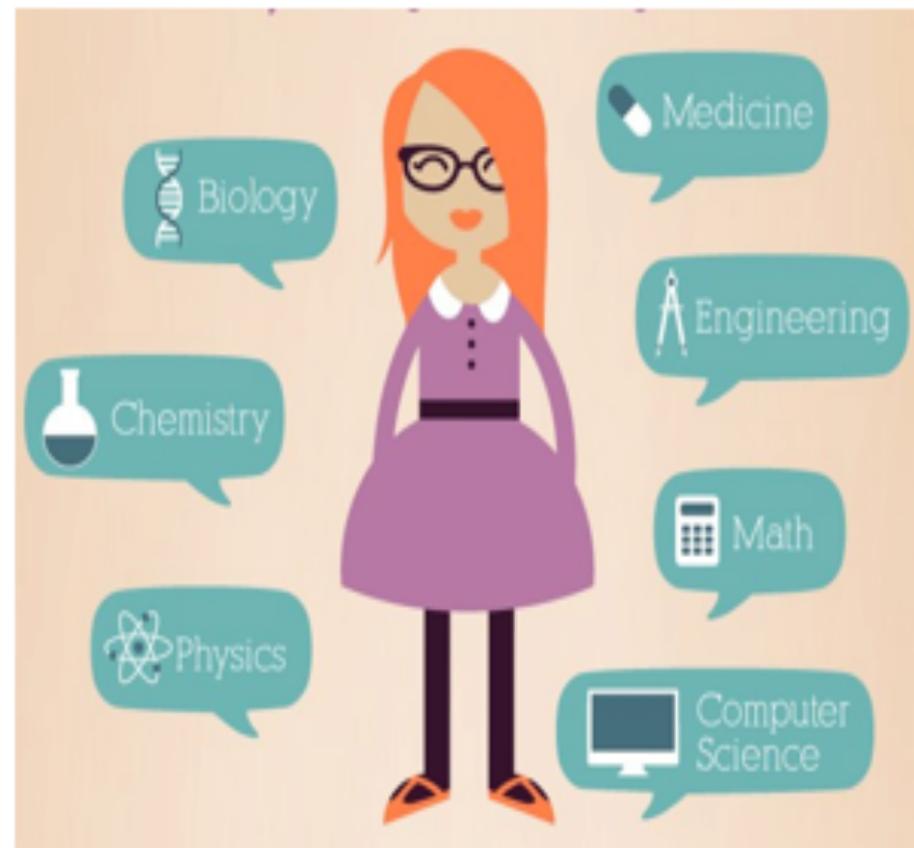
Team – Orange Dots .

Aditi Agrawal

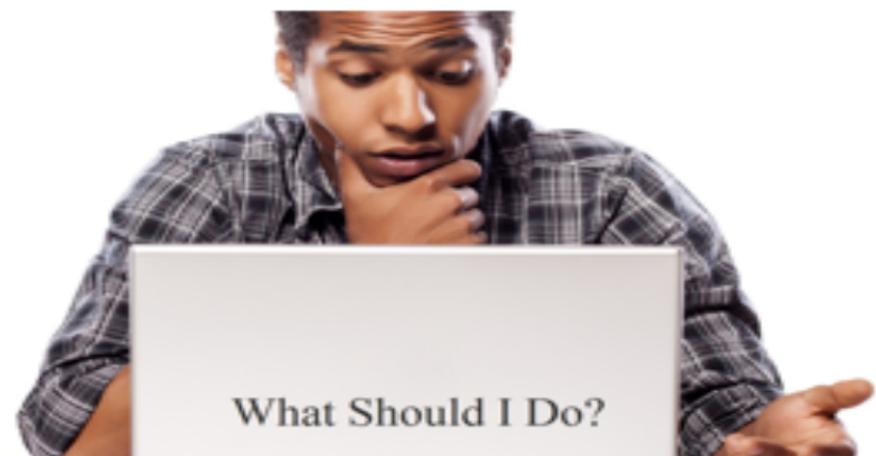
Ankita Aggarwal

Priya Mishra





STEM Science, Technology,
Engineering, Mathematics



Why we chose STEM?

Why STEM?

Science Technology Engineering Mathematics

STEM workers enjoy premium wages

32% Males and 12% Females STEM graduates earn in the top income bracket (\$104 000 or above)

STEM workers experience relatively low unemployment

STEM unemployment rate is 3.7% vs non-STEM rate of 4.1%.
54% of companies are struggling to find computer science graduates.

STEM workers are in demand across the globe

In the US STEM jobs are growing 3 times faster than non-STEM.
An additional 1.25M STEM jobs are required in the UK by 2020.

STEM graduates have transferable skills

An average school leaver will have 17 employers in 5 industry sectors across their lifetime (average tenure is 3 years 4 months in a job).

STEM jobs are often within innovative fields

Working for progressive companies leads to interesting and challenging work.
75% of the fastest growing occupations require STEM skills.

A purple dotted line connects the four bottom sections of the infographic.

Why is it interesting?

7 AWESOME FACTS ABOUT STEM EDUCATION

2. Salary

The average Payout of STEM jobs is 70% more than the national average.



4. Growth

The department of commerce predicts; between 2008 to 2018 STEM Jobs will grow twice than other Jobs.



6. Future

The U.S. Bureau of Statistics says; next 20 years, 80% of jobs will require technical skill.



1. At Present

Number of unfilled STEM vacancies are higher than qualified candidates.



3. Requirement

Kansas and Missouri will need 185,000 additional people with STEM Education by 2018.



5. Wanted

8 out of 10 most wanted employees listed by US Department of Labor were the ones with STEM education.



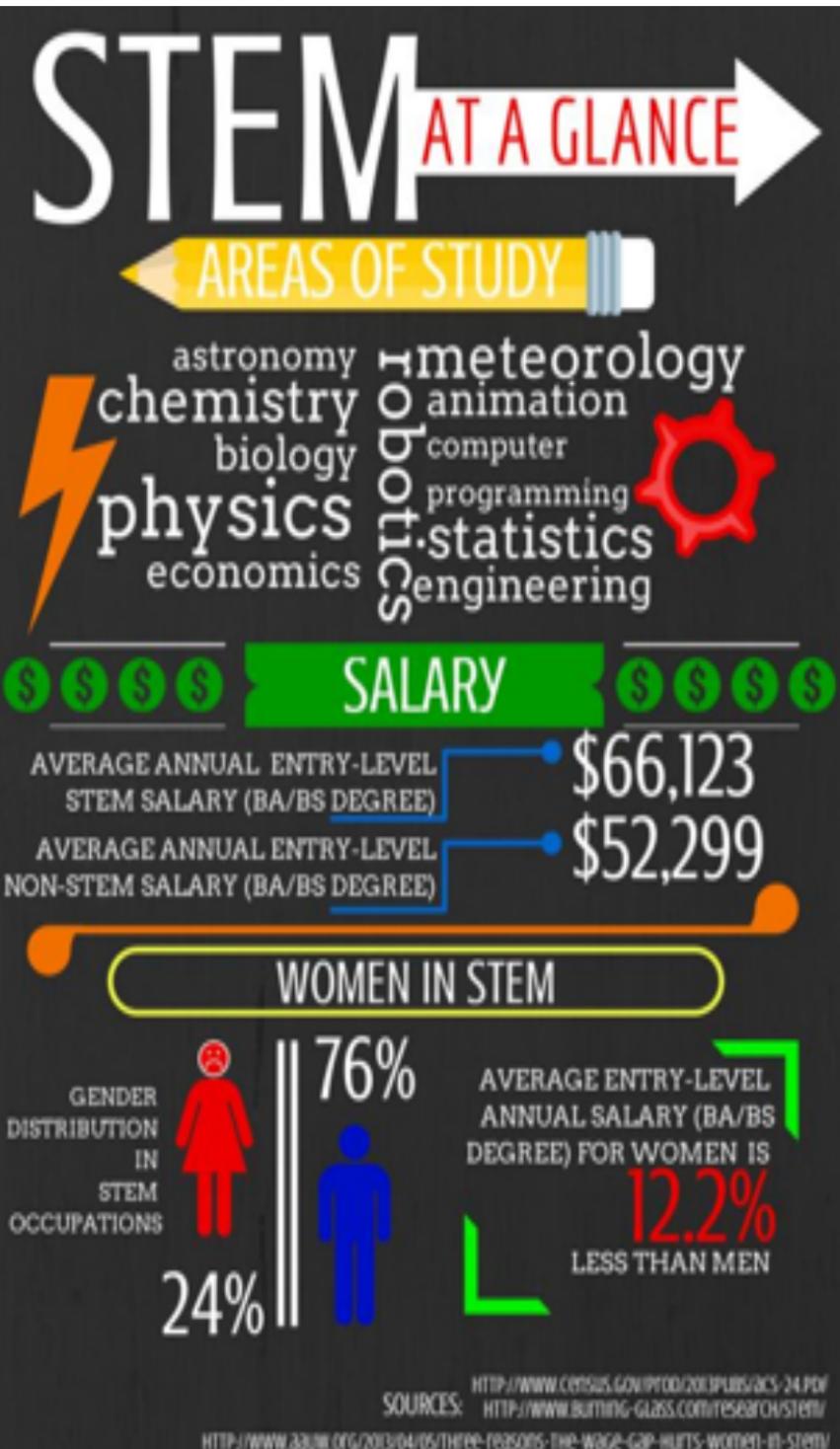
7. Reality

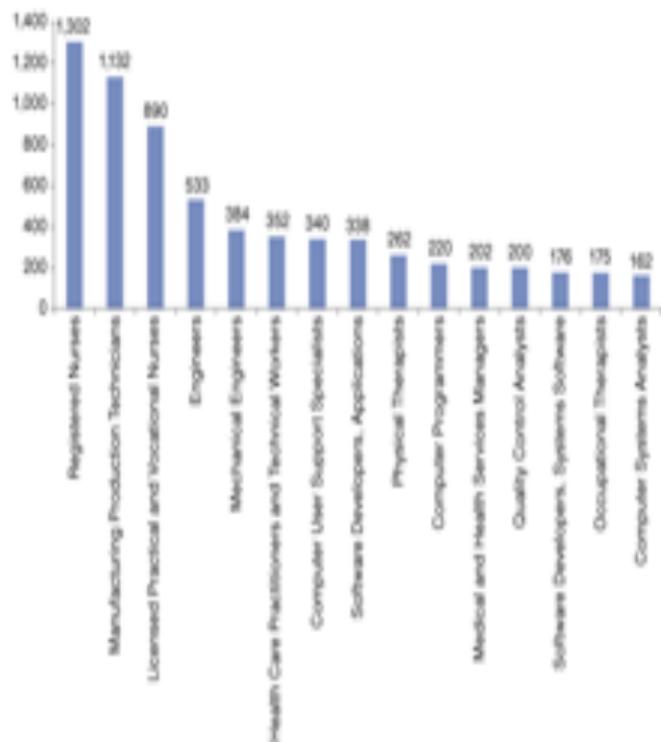
STEM employees are in charge of building communities and moving the nation forward.



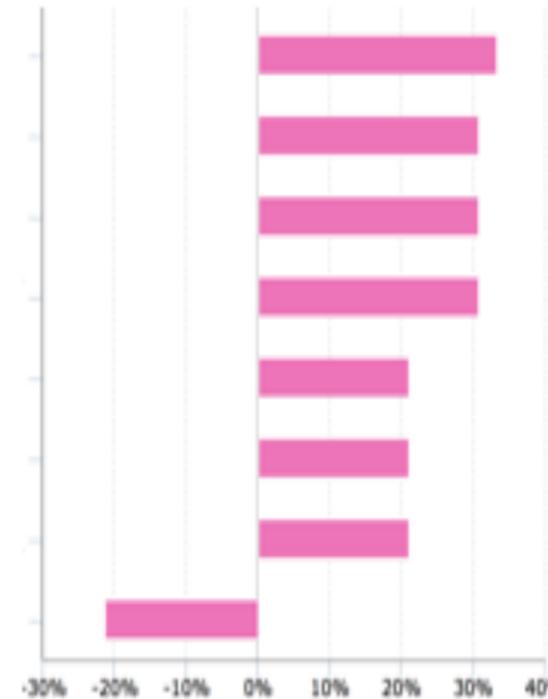
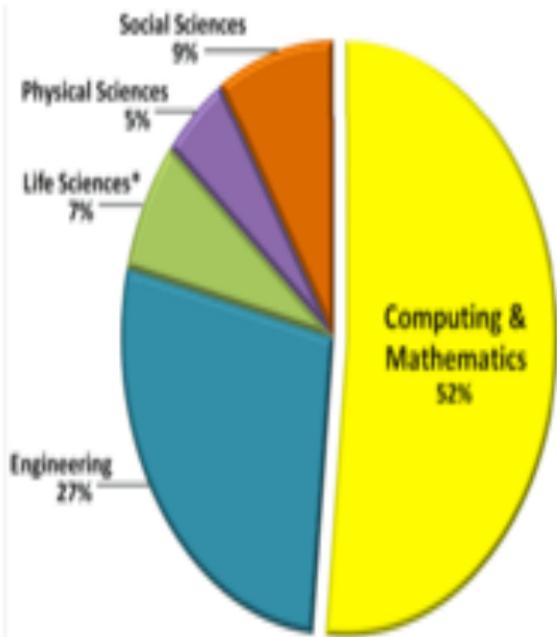


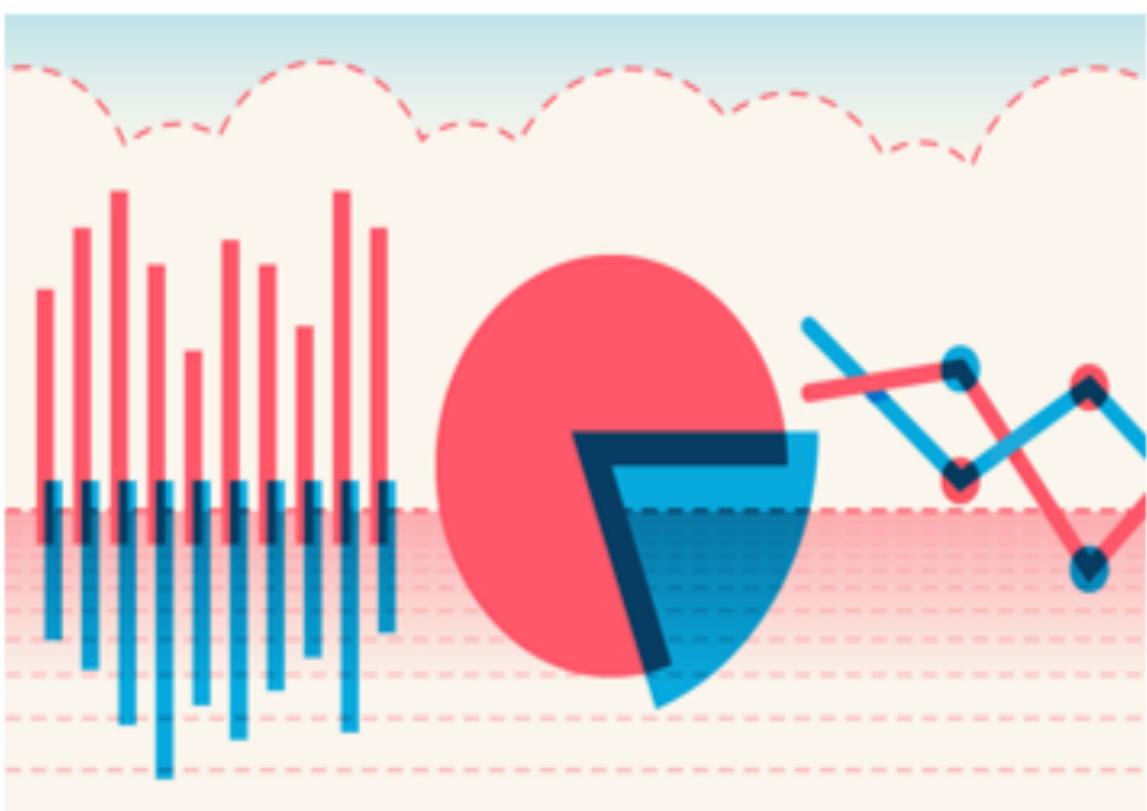
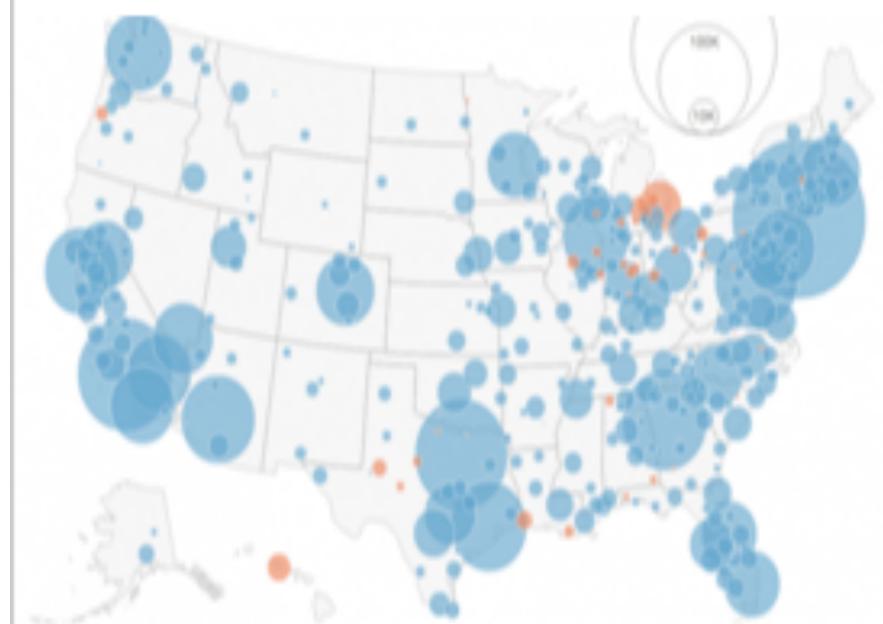
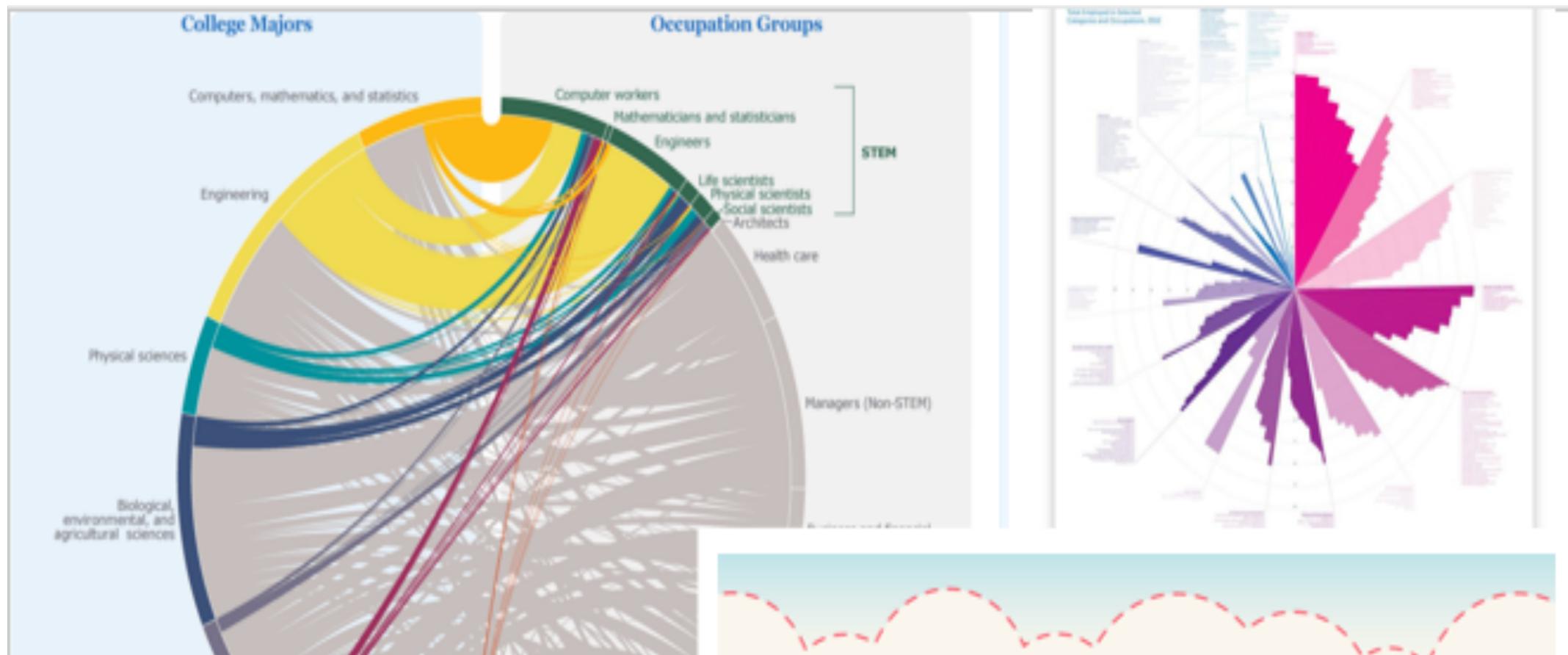
STEM 101: Intro to tomorrow's jobs





Occupation	Job openings, projected 2012–13	Employment		Median annual wage, May 2013	Typical entry-level education ¹
		2012	Projected 2022		
Software developers, applications	218,500	613,000	752,900	\$61,660	Bachelor's degree
Computer systems analysts	209,600	526,600	648,600	\$61,190	Bachelor's degree
Computer user support specialists ²	196,900	347,700	618,900	\$46,620	Some college, no degree
Software developers, systems software	134,700	403,000	487,800	\$60,410	Bachelor's degree
Civil engineers	130,100	272,900	336,600	\$60,770	Bachelor's degree
Computer programmers	118,100	345,700	372,100	\$60,140	Bachelor's degree
Sales representatives, wholesale and manufacturing, technical and scientific products ³	111,800	382,300	419,500	\$46,520	Bachelor's degree
Network and computer systems administrators	106,500	366,400	409,400	\$46,060	Bachelor's degree
Mechanical engineers	99,700	258,100	268,700	\$62,160	Bachelor's degree
Computer and information systems managers ⁴	97,100	331,700	383,600	\$123,890	Bachelor's degree
Industrial engineers	75,400	223,300	213,400	\$60,300	Bachelor's degree
Architectural and engineering managers ⁵	60,600	191,800	206,900	\$128,170	Bachelor's degree
Web developers	50,700	141,600	169,900	\$63,160	Associate's degree
Electrical engineers	44,100	166,100	178,800	\$61,080	Bachelor's degree
Computer network architects ⁶	41,500	141,400	164,300	\$61,380	Bachelor's degree

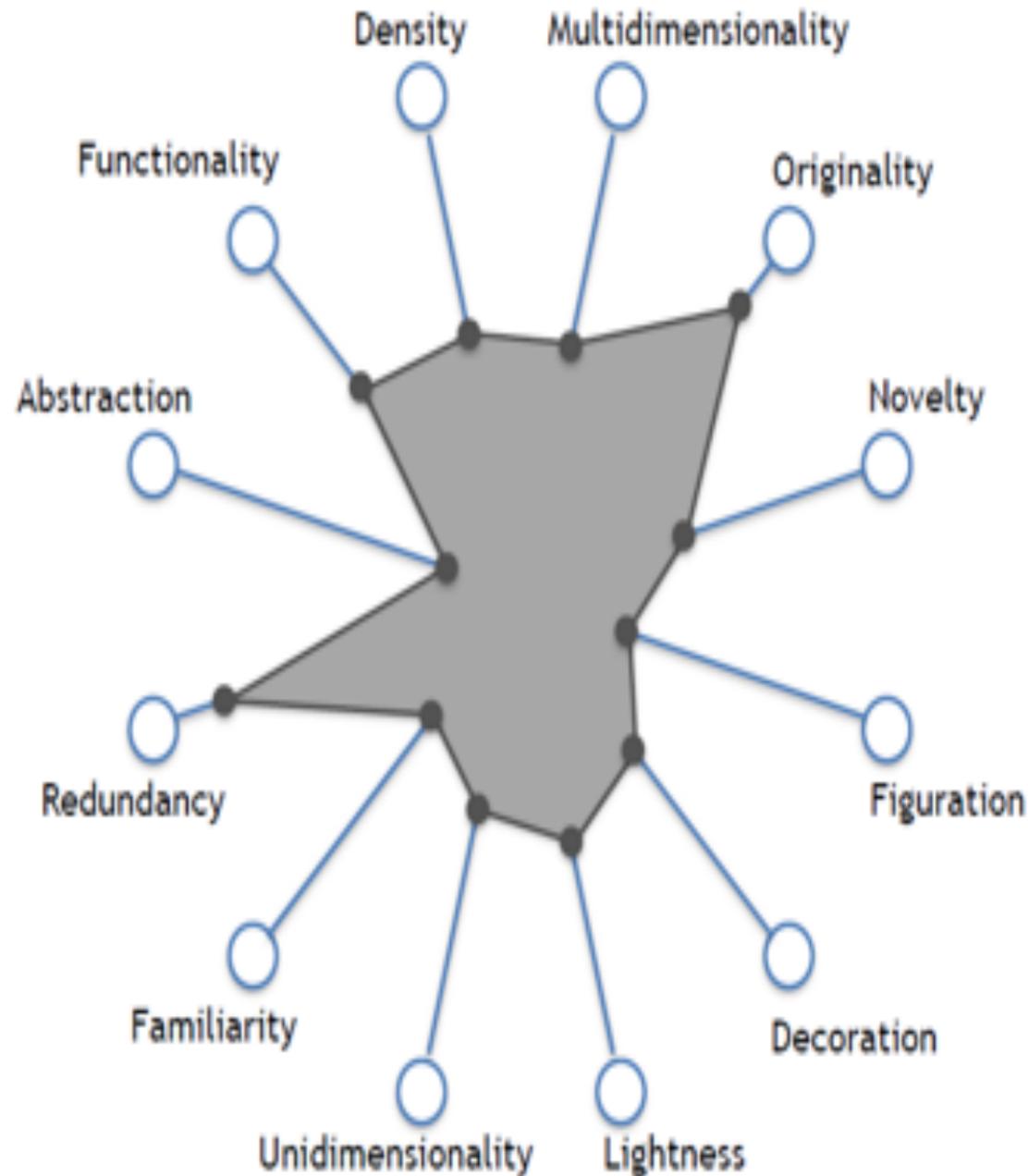




Data Source



Design Consideration



Technologies
we plan to
use



HTML



CSS



JavaScript



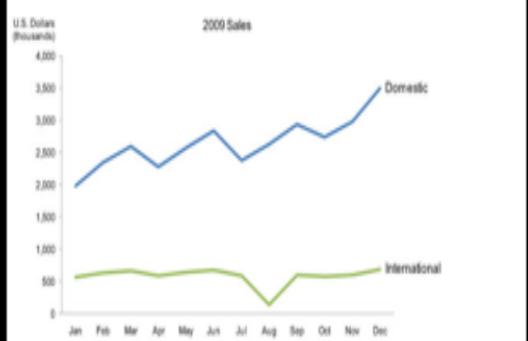
D3.js - Data Driven Documents

How to design, build and evaluate?

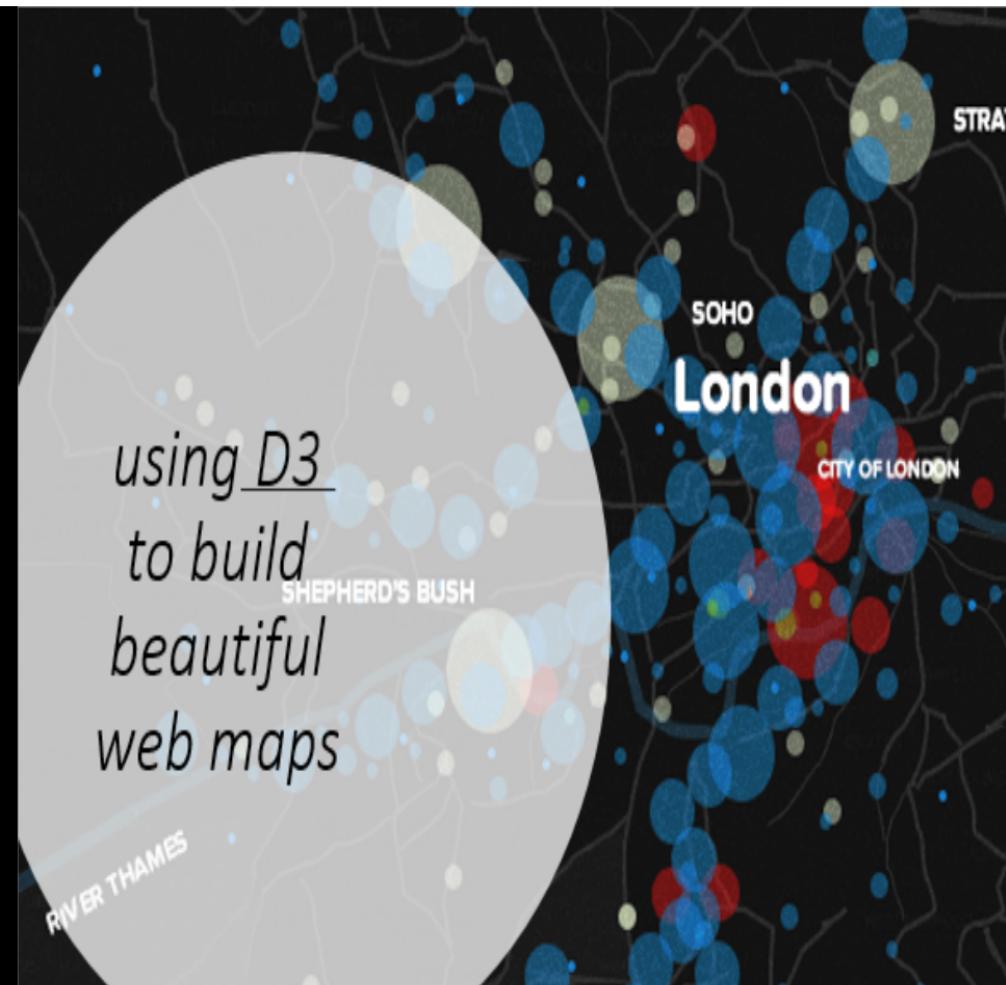
"A picture is worth a thousand words - but only when the story is best told graphically rather than verbally and the picture is well designed".

2009 Sales (thousands of U.S. \$)													
Region	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Domestic	1,983	2,343	2,593	2,283	2,574	2,838	2,382	2,634	2,938	2,739	2,983	3,493	31,783
International	574	636	673	593	644	679	593	139	599	583	602	690	7,005
Total	2,557	2,979	3,266	2,876	3,218	3,517	2,975	2,773	3,537	3,322	3,585	4,183	38,788

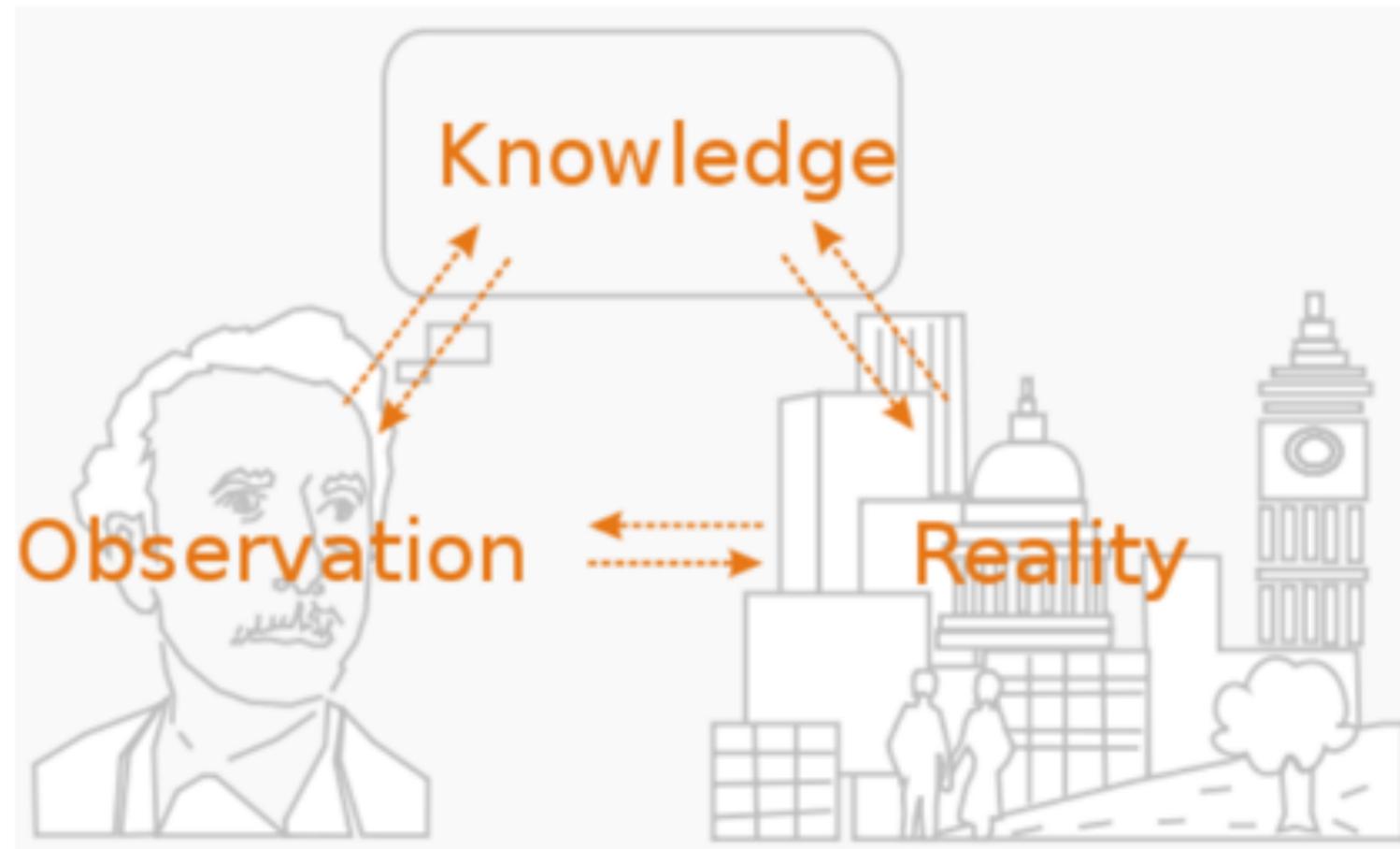
Now look at the following picture of the same information in the form of a line graph:



using D3
to build
beautiful
web maps



Evaluate

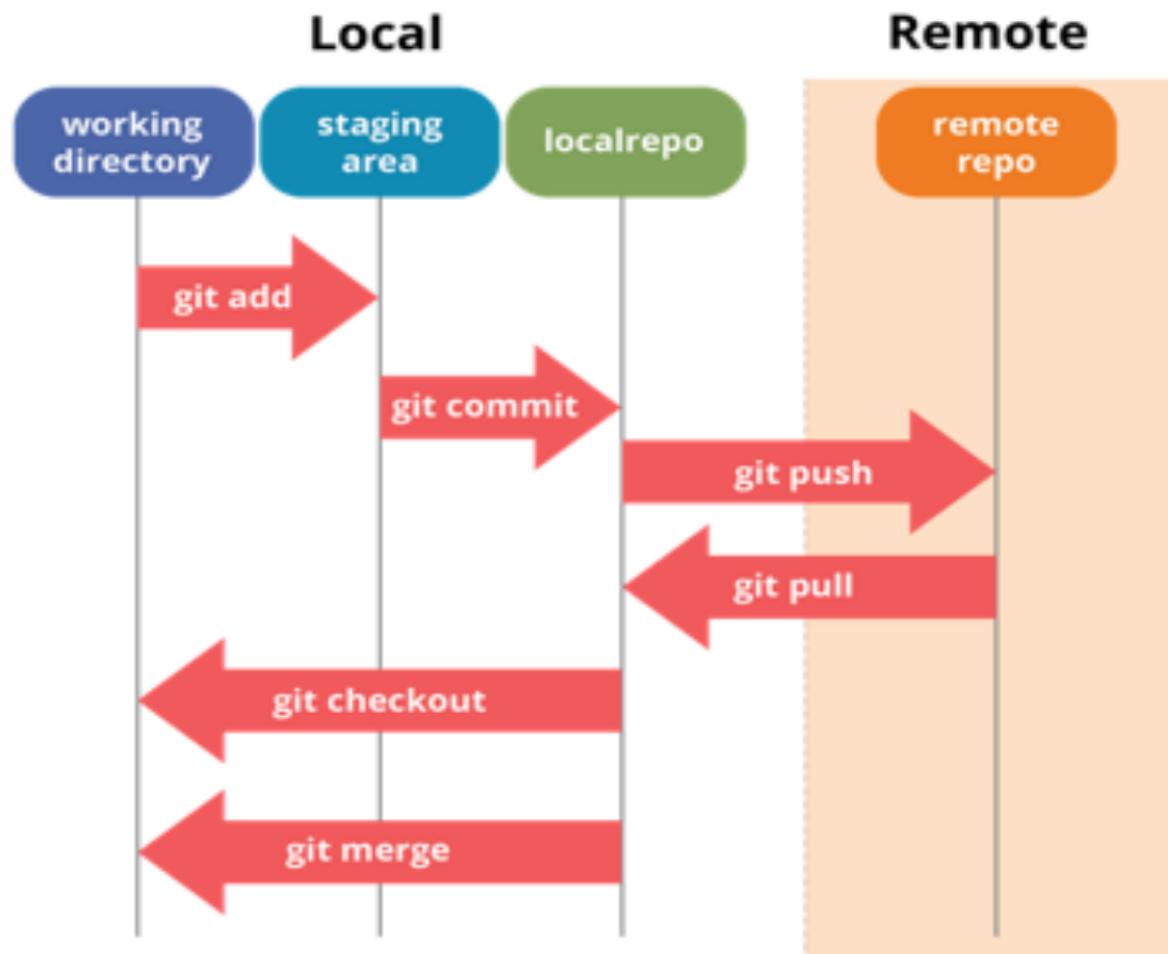




Deliverables?



How do we work together?



Facebook - Orange Dots

Orange Dots

+ Add Nickname

Edit Profile View Activity Log ...

Timeline About Friends Photos More ...

Orange Dots

Born on October 5

Like Comment Share

Orange Dots October 10

Collected Occupational Employment Statistics Data

October 10

<https://www.bls.gov/oes/>

Like Comment Share

Orange Dots October 18

Comprehended data and understood important features

October 18

Created rough models

November 2

Pen and paper drawings to figure out best representation

Orange Dots November 15

D3 Visualizations

November 15

Complete Prototype

November 22

Wow Comment Share

Orange Dots November 30

Testing and Evaluation

November 30

Focus Groups
Controlled Experiments

Like Comment Share

Orange Dots December 2

Git Commit