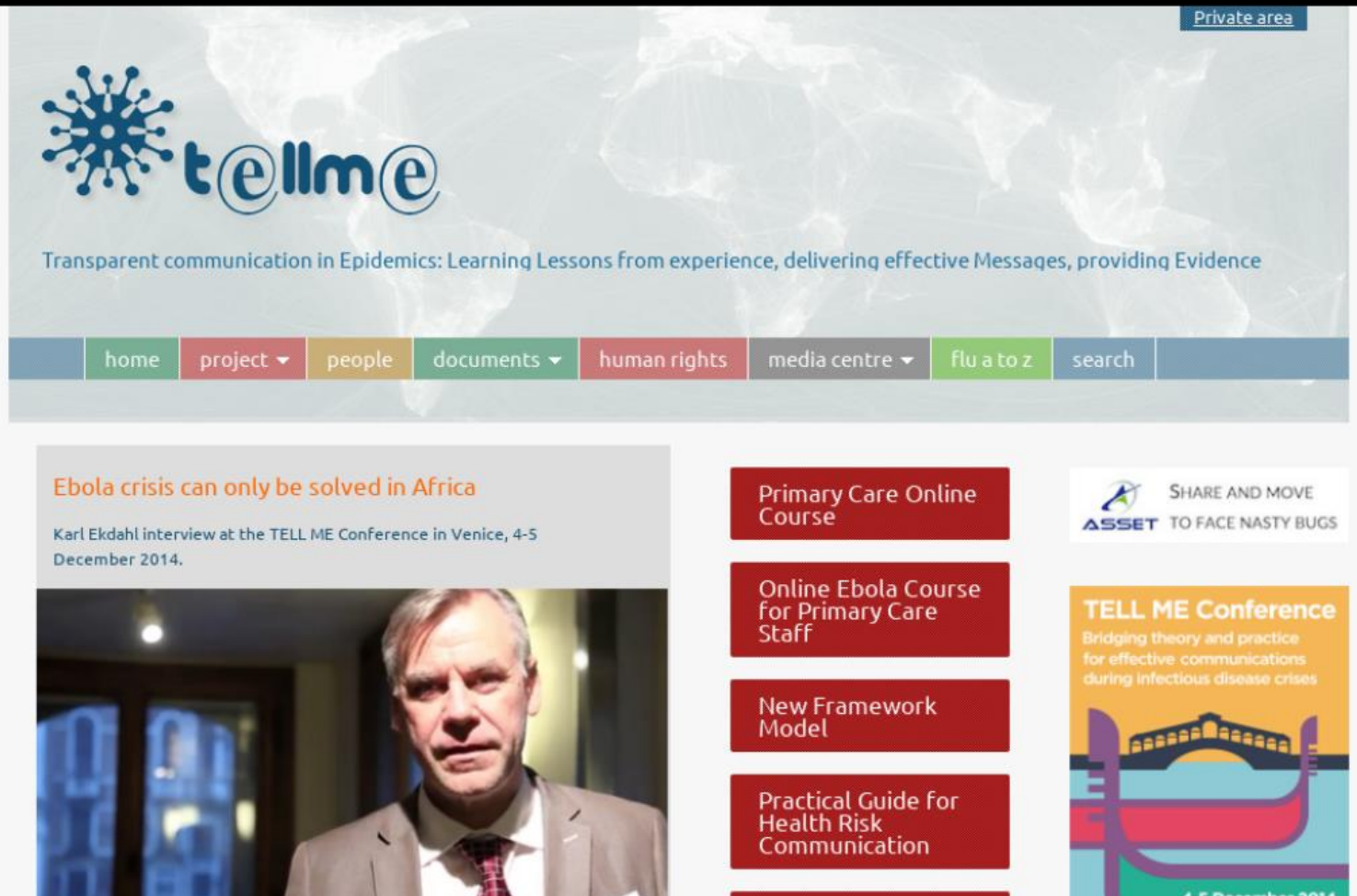
3rd International Conference on Digital Disease Detection

Riccardo Scalco

Zadig

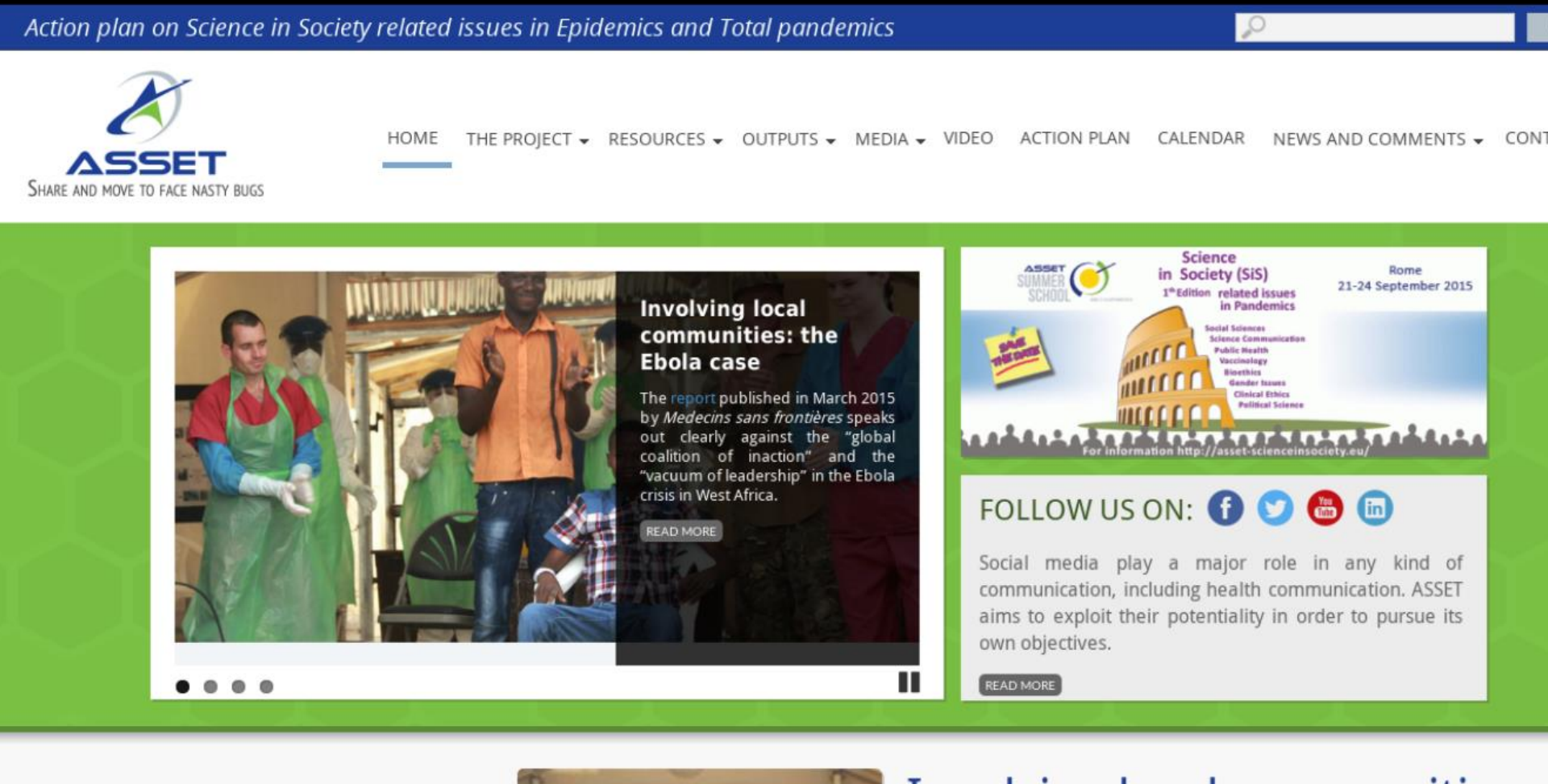
TELL ME project

was a 7th Framework EU funded project, ended on 2015, January 31st, aimed to develop evidence-based models for improved risk communication during infectious disease outbreaks.



ASSET

(Action plan on Science in Society related issued in Epidemics and Total pandemics) is a four-year Mobilization and Mutual Learning Action Plan (MMLAP) project funded by the European Commission.



MOTIVATIONS

1) Rapidly recognize and evaluate relevant data streams in the field of Health.

2) Discover new trends and most influential users on the short period.

TWEETS 1,066 | FOLLOWING 79 | FOLLOWERS 168 | FAVORITES 294 | LISTS 3

Jane G @JaneG_MSF **@janeG_MSF**

Epidemiologist with MSF in London

Tweet to Jane G

Photos and videos

Tweets | Tweets & replies | Photos & videos

Jane G retweeted **@msf_yemen**

أطباء بلا حدود-اليمن @msf_yemen · 15h

.@MSF treated 300+ injured in #Yemen since 19 March. #YemenCrisis

@MSF

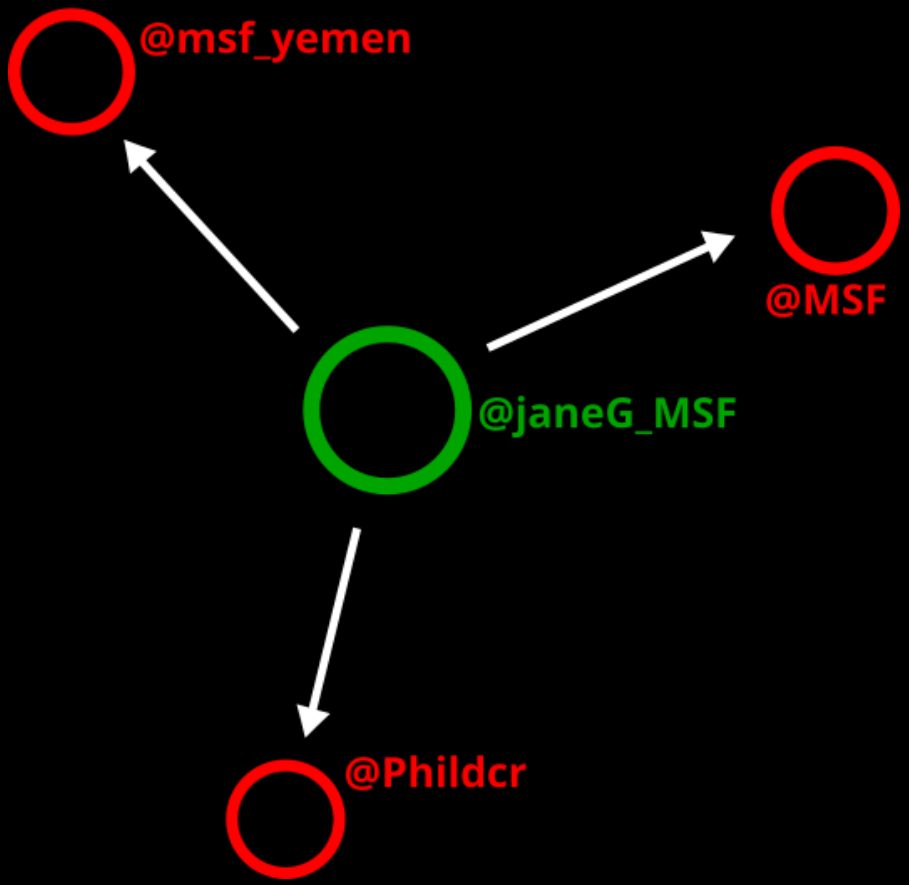
19 9

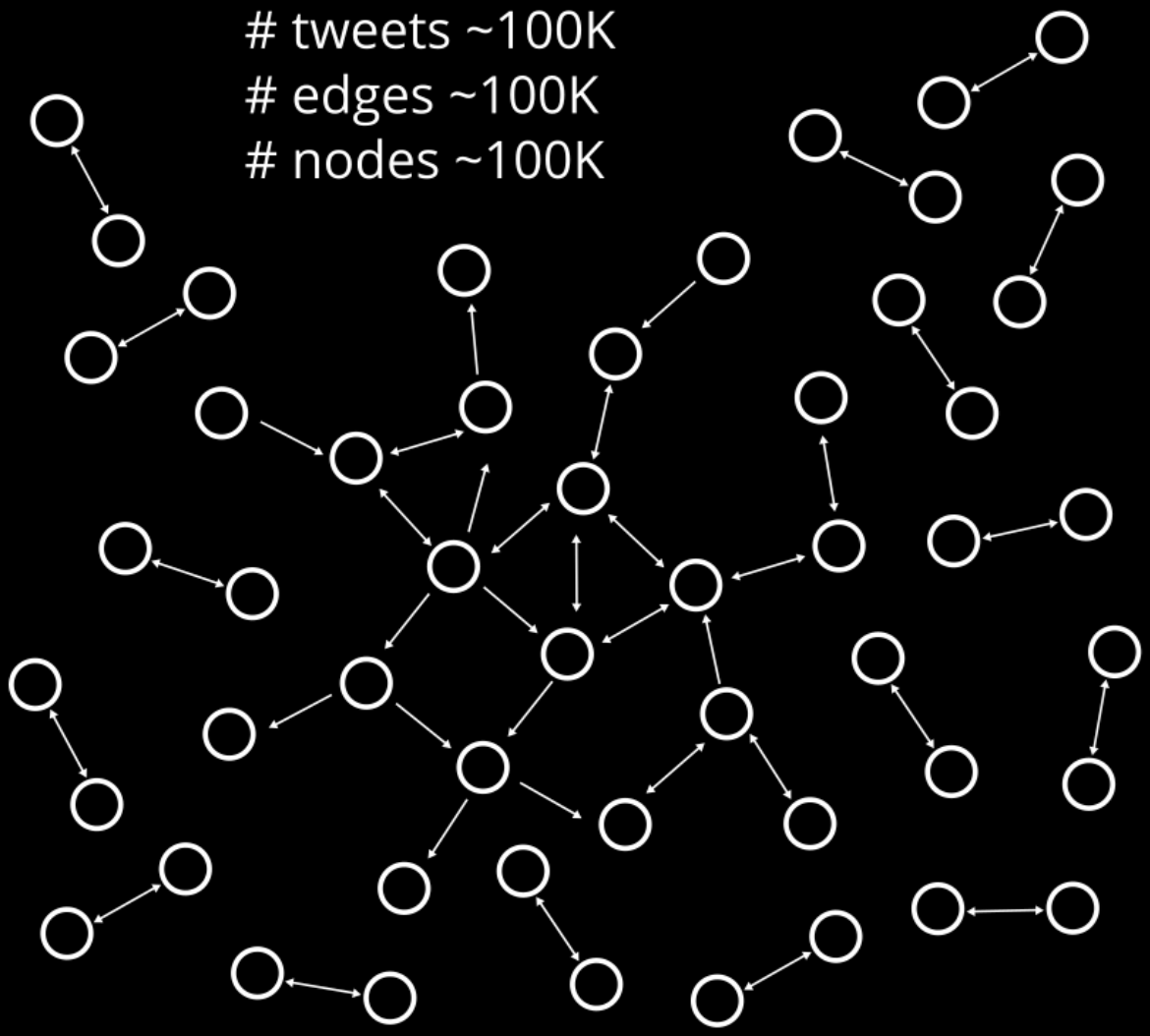
@Phildcr

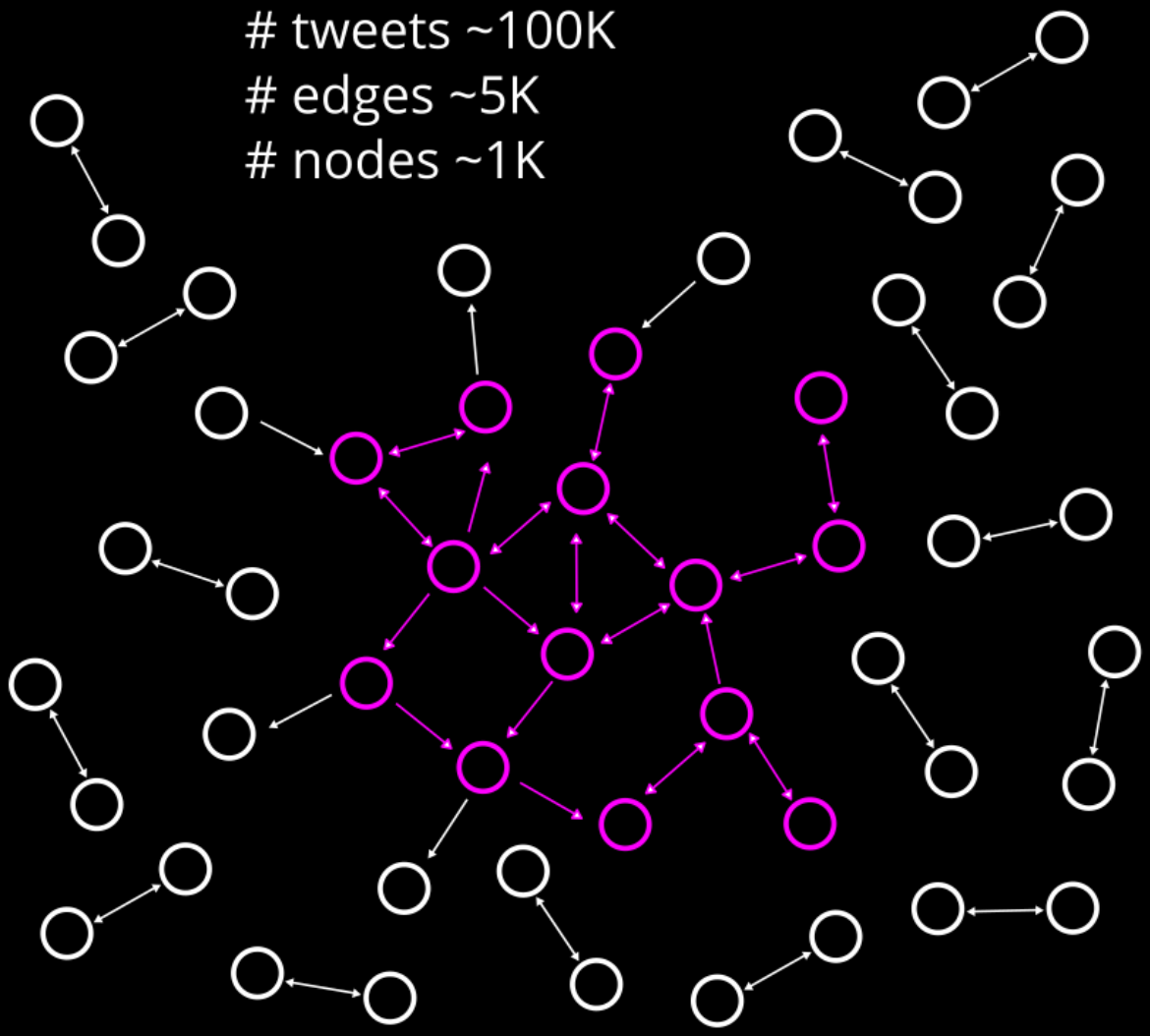
Jane G @JaneG_MSF · 7h

#MSFsci If @Phildcr wrap-up ref. to Henrietta Lacks perplexed you: her cells, taken w/out her knowledge in1951, are v. important to medicine

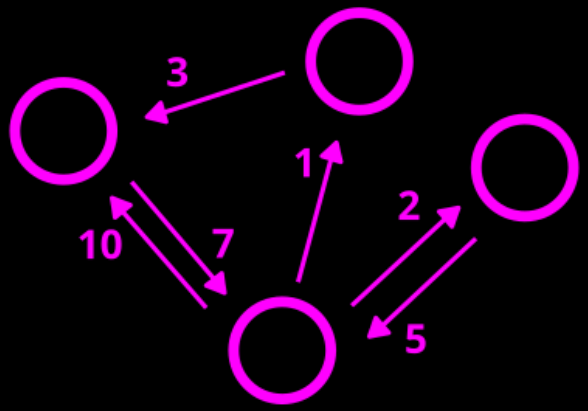
Retweets and mentions
define links among users

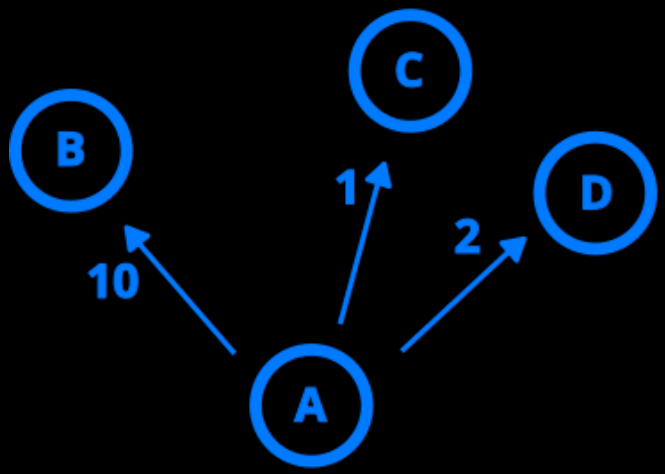



tweets ~100K
edges ~100K
nodes ~100K


tweets ~100K
edges ~5K
nodes ~1K

Retweets +
Mentions





TRANSITION PROBABILITIES AMONG NODES

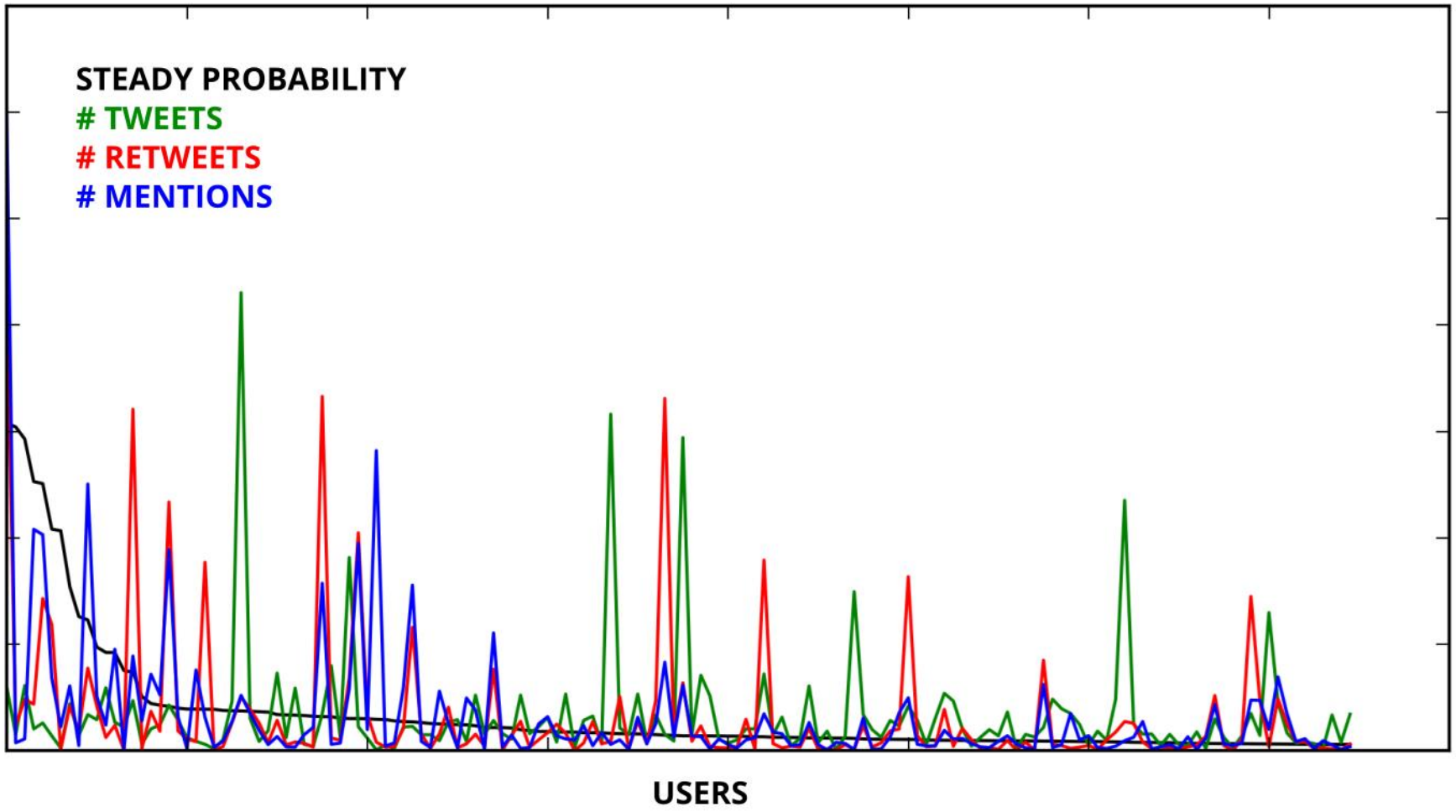
$T_{AB} = 10 / 13$

$T_{AC} = 1 / 13$

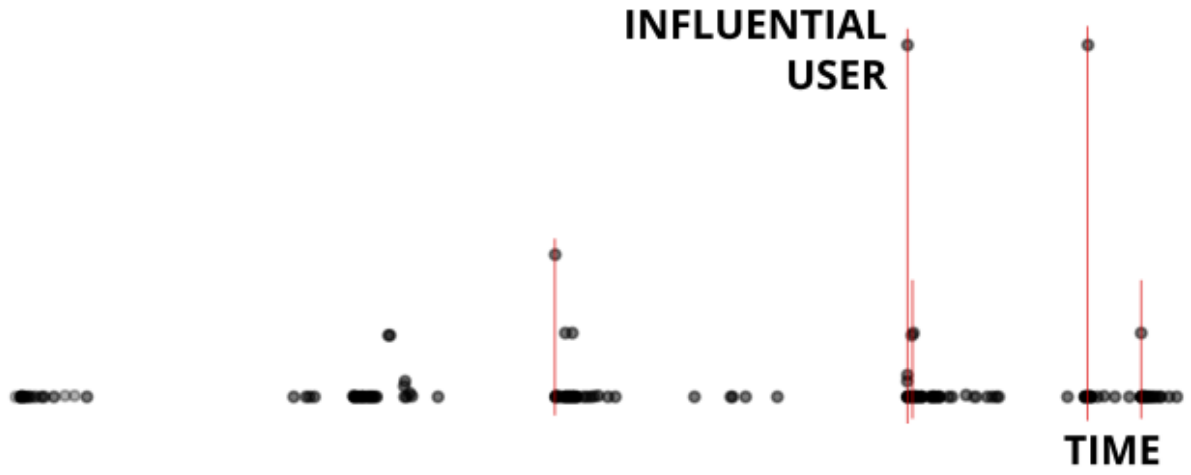
$T_{AB} = 2 / 13$

STEADY STATE OF A FINITE ERGODIC MARKOV CHAIN

$$p = p\,T$$

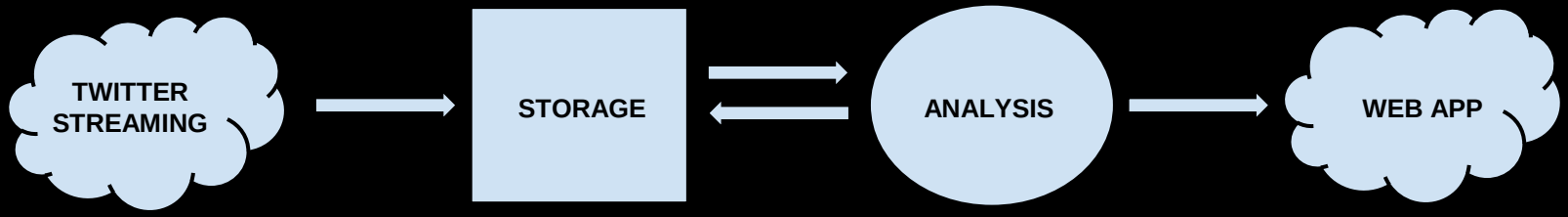

STEADY PROBABILITY
TWEETS
RETWEETS
MENTIONS
USERS

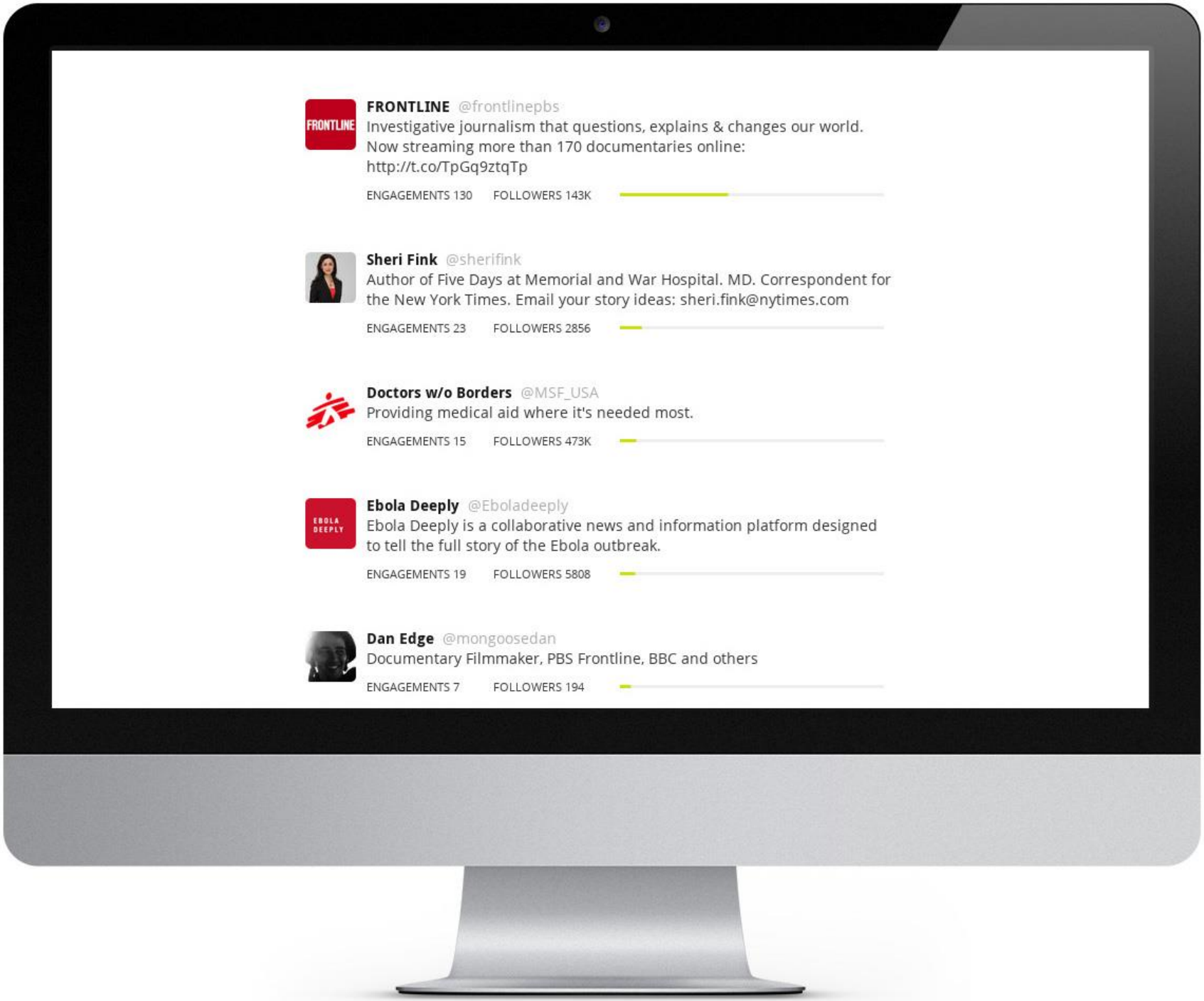
RETWEETS AND MENTIONS ACHIEVED DURING TIME

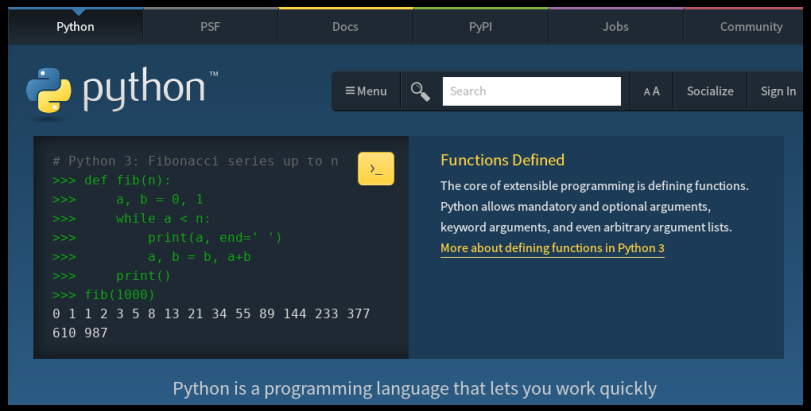


METHOD PROPERTIES

- focus on the user visibility on the discussion
- discover influential users on the short period
- avoid popular irrelevant users
- find single person account, like scientists or journalists


TWITTER
STREAMING
STORAGE
ANALYSIS
WEB APP


FRONTLINE
FRONTLINE @frontlinepbs
Investigative journalism that questions, explains & changes our world. Now streaming more than 170 documentaries online: http://t.co/TpGq9ztqTp
ENGAGEMENTS 130 FOLLOWERS 143K
Sheri Fink @sherifink
Author of Five Days at Memorial and War Hospital. MD. Correspondent for the New York Times. Email your story ideas: sheri.fink@nytimes.com
ENGAGEMENTS 23 FOLLOWERS 2856
Doctors w/o Borders @MSF_USA
Providing medical aid where it's needed most.
ENGAGEMENTS 15 FOLLOWERS 473K
EBOLA DEEPLY
Ebola Deeply @Eboladeeply
Ebola Deeply is a collaborative news and information platform designed to tell the full story of the Ebola outbreak.
ENGAGEMENTS 19 FOLLOWERS 5808
Dan Edge @mongoosedan
Documentary Filmmaker, PBS Frontline, BBC and others
ENGAGEMENTS 7 FOLLOWERS 194


Python
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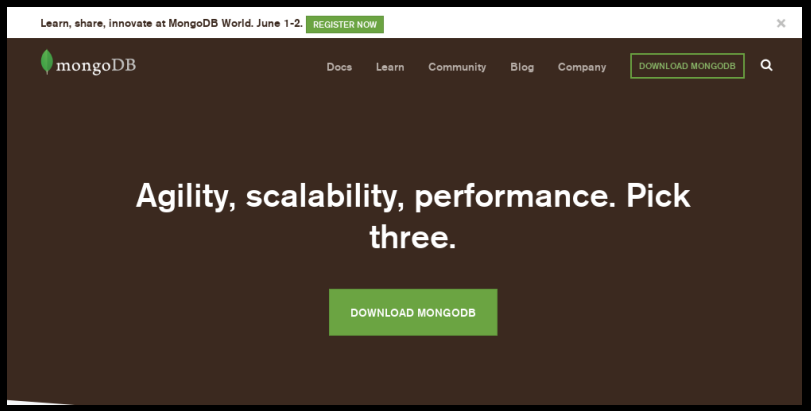
Sign In
# Python 3: Fibonacci series up to n
>>> def fib(n):
>>> a, b = 0, 1
>>> while a < n:
>>> print(a, end=' ')
>>> a, b = b, a+b
>>> print()
>>> fib(1000)
0 1 1 2 3 5 8 13 21 34 55 89 144 233 377
610 987
Functions Defined
The core of extensible programming is defining functions.
Python allows mandatory and optional arguments,
keyword arguments, and even arbitrary argument lists.
More about defining functions in Python 3
Python is a programming language that lets you work quickly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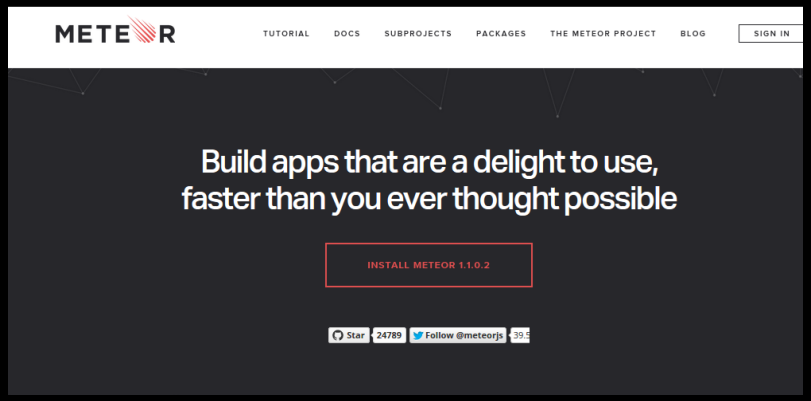
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TUTORIAL
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PACKAGES
THE METEOR PROJECT
BLOG
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Build apps that are a delight to use,
faster than you ever thought possible
INSTALL METEOR 1.1.0.2
Star 24789
Follow @meteorjs

Overview
Examples
Documentation
Source
Data-Driven Documents

Thanks

ACKNOWLEDGEMENTS
Sergio Cima, Zadig

REFERENCES

Equilibrium distribution from distributed computing

(simulations of protein folding)

J Phys Chem B. 2011 May 19;115(19):6358-65

http://riccardoscalco.github.io/

http://zadig.it/