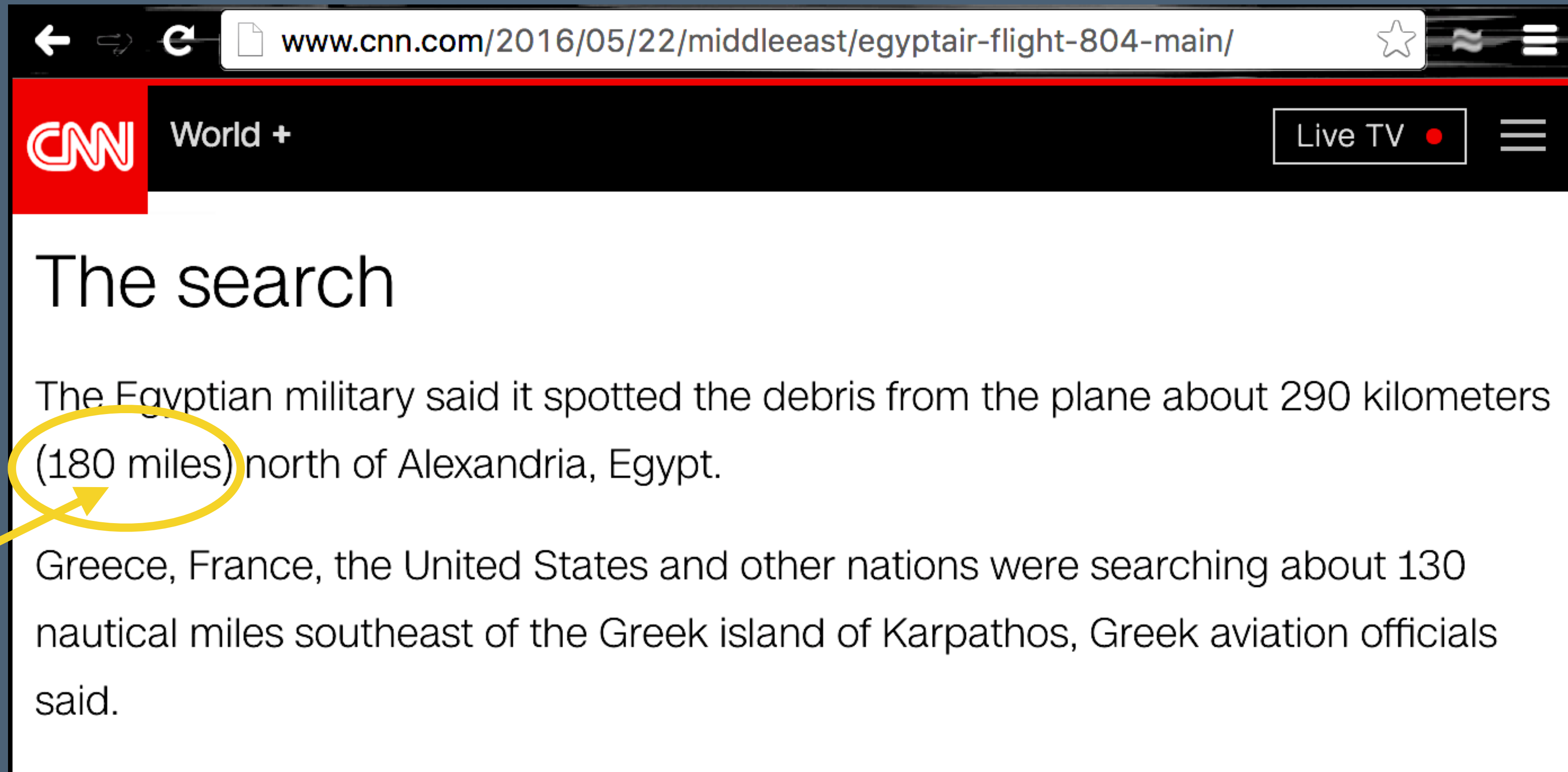


Personalized infoviz reconstruction

TUM CHATURPARUEK

Concepts

- **Problems:** Unfamiliar numbers are difficult to interpret



← → ↻ www.cnn.com/2016/05/22/middleeast/egyptair-flight-804-main/ ☆ ~ ≡

CNN World + Live TV ● ≡

The search

The Egyptian military said it spotted the debris from the plane about 290 kilometers (180 miles) north of Alexandria, Egypt.

Greece, France, the United States and other nations were searching about 130 nautical miles southeast of the Greek island of Karpathos, Greek aviation officials said.

Concepts

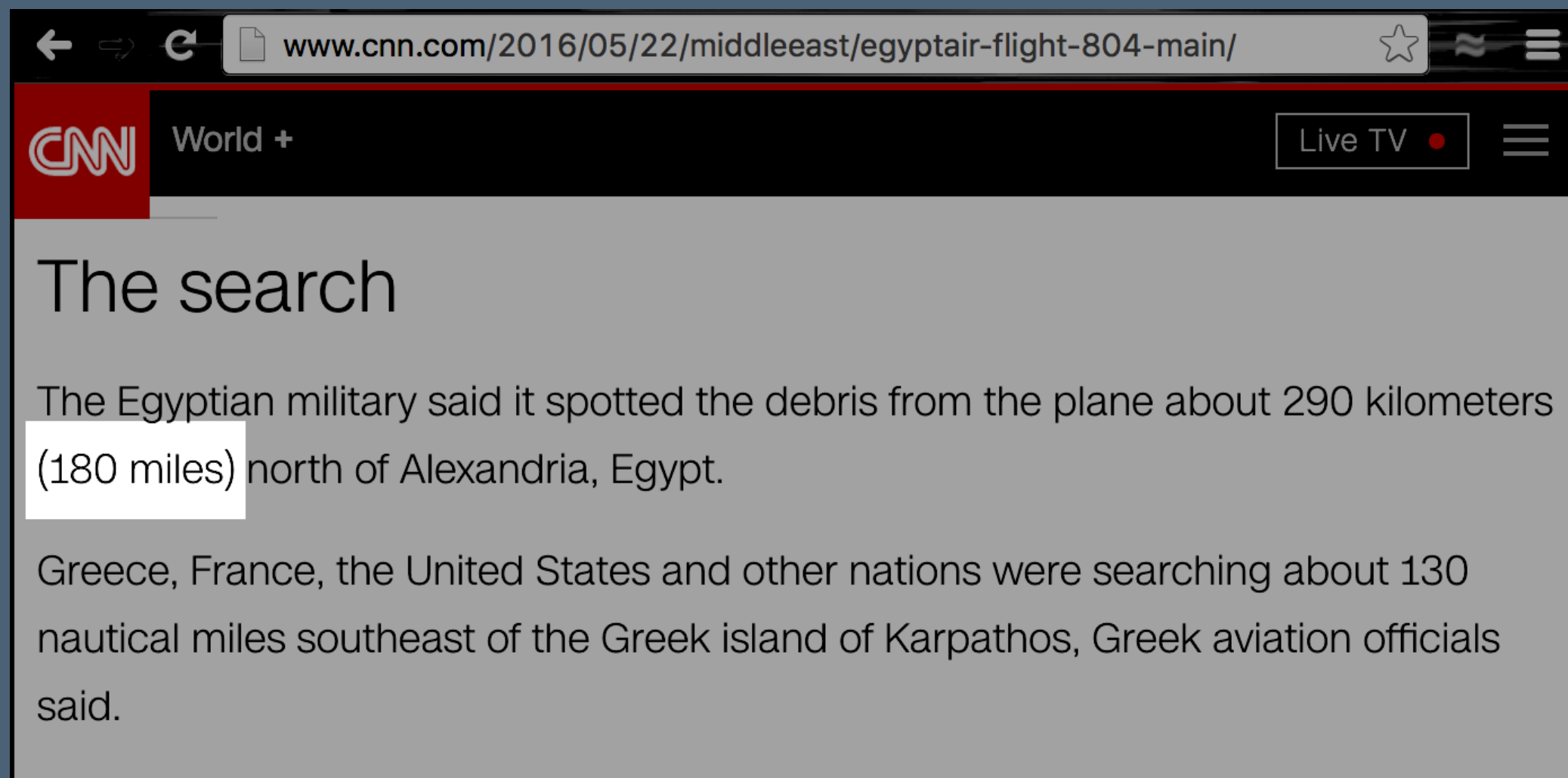
- **Problems:** Unfamiliar numbers are difficult to interpret

Solutions:

- **Personalization**
- **Inline annotation in a browser** readily available


Progress

- Started making a Chrome browser extension, tested on a CNN web

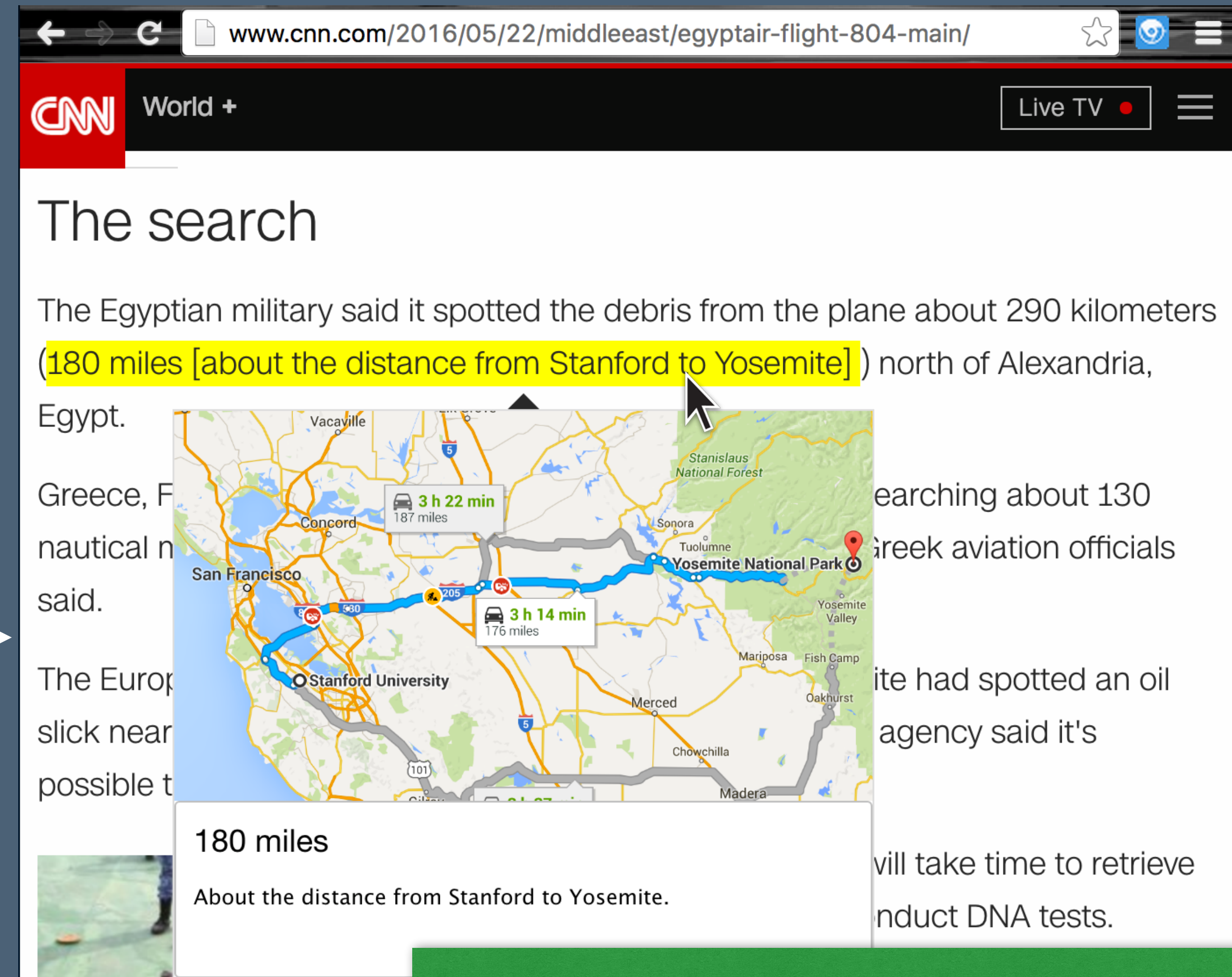


+



 **Personalized, semantic- and context-aware information visualization** 0.0.1 Enabled

This extension annotates various quantities with personalized explanations.



Note: the mapping between examples and explanations is currently hard-coded

Progress

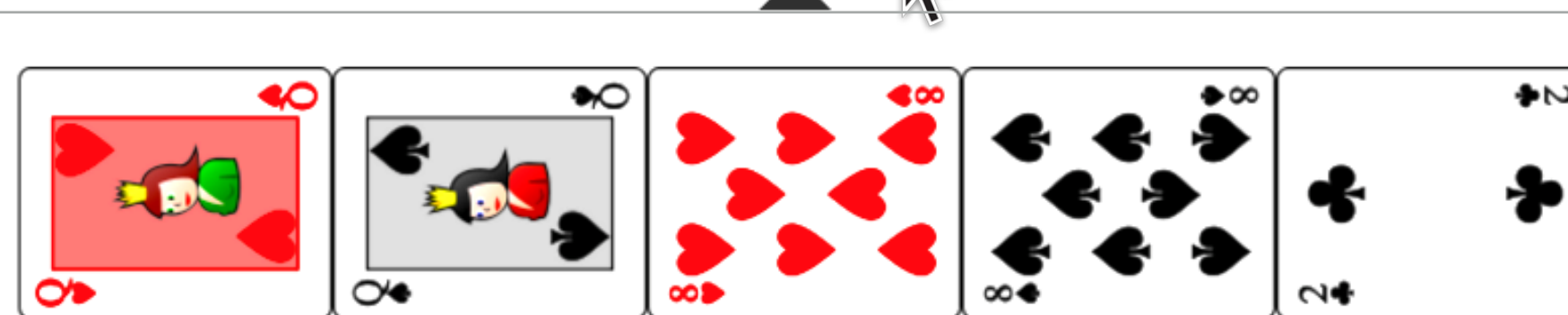
- Wrote a few test cases
- Started recruiting poker experts to do a study

file:///Users/sorathan/Github/semantic_viz/tests/example.html

Personalized, semantic-aware visualization test cases

Test cases

1. The Egyptian military said it spotted the debris from the plane about 290 kilometers (180 miles [about the distance from Stanford to Yosemite]) north of Alexandria, Egypt.
2. There is a 23% chance [about the probability of getting a two pair in poker] of raining tomorrow.
3. Michael Jordan's



The probability of getting a two pair in poker

The pairs can have any two of the thirteen ranks, and each pair can have two of the four suits.

The final card can have any one of the eleven remaining ranks, and any suit. Thus, the total number of two-pairs is:

$$\binom{13}{2} \binom{4}{2}^2 \binom{11}{1} \binom{4}{1} = 123,552 \text{ which is about 23\%}$$

chance

Personal data

- Location: Stanford, CA
- Profession: Poker player

Note: the mapping between examples and explanations is currently hard-coded

Progress

- Thought about how to leverage personal info
- Thought about how to put numbers in context

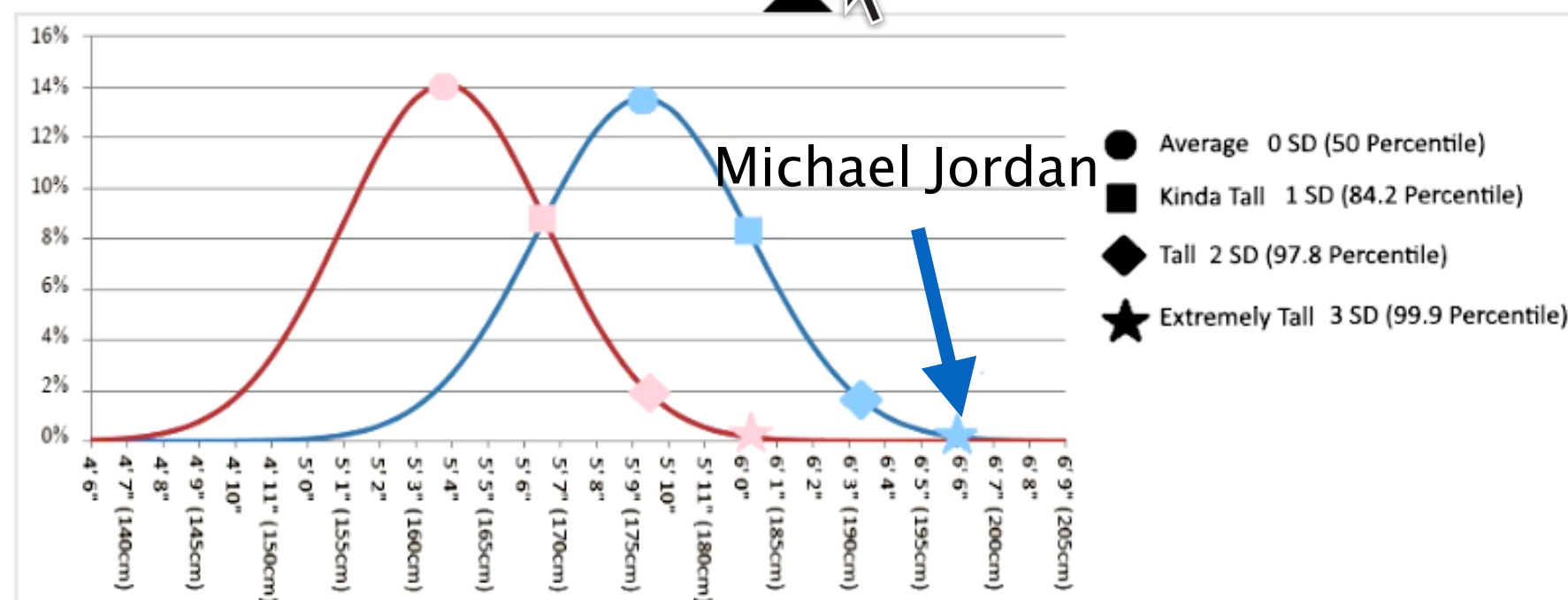
file:///Users/sorathan/Github/semantic_viz/tests/example.html

Personalized, semantic-aware visualization test cases

Test cases

1. The Egyptian military said it spotted the debris from the plane about 290 kilometers (180 miles [about the distance from Stanford to Yosemite]) north of Alexandria, Egypt.
2. There is a 23% chance [about the probability of getting a two pair in poker] of raining tomorrow.

3. Michael Jordan's 198 cm [6' 6"] .



6' 6"

Extremely Tall.

99.846 Percentile (average 5' 9.3", standard deviation 2.94")

Personal data

- Location: Stanford, CA
- Profession: Poker player

Note: the mapping between examples and explanations is currently hard-coded

Literature Review

Previous work	Contributions	How my project will differ
Dictionary of Numbers (Glen Chiacchieri; 2014)	"315 million people" —> "315 million people [\approx the population of the United States]"	<ul style="list-style-type: none">• Personalized• Context-aware• Less sparse

Literature Review

Previous work	Contributions	How my project will differ
Dictionary of Numbers (Glen Chiacchieri; 2014)	"315 million people" —> "315 million people [\approx the population of the United States]"	<ul style="list-style-type: none">• Personalized• Context-aware• Less sparse
Generating Personalized Spatial Analogies for Distances and Areas (Kim, Hullman, Agrawala; CHI, 2016)	Automatically choosing well-known landmarks near user's location	<ul style="list-style-type: none">• Leveraging more personal info other than locations• More domains• Inline

Next: Milestones

- Current examples are hard-coded. Need to automate the process.
- Collect sharable personal info from Facebook
- Implement personalization features
- Perform user testing to get insight and test effectiveness

Questions for you

- Are there any poker experts here?
- What are other compelling examples that leverage personalization, context, and semantics?