“Atomic Events” MVP

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This paper describes a new idea we have for the ByteCycler minimum viable product (MVP).

Overview

Event Cards are short and self-contained. They're longer than a tweet, but shorter than a Wikipedia article. They describe — you guessed it — a particular event. Event Cards can also be picked up and embedded in other software — note taking apps, blogs, you name it — in a similar fashion to Tweets or YouTube videos, making for easy sharing.

Chains can be constructed by linking together Event Cards — thereby using the cards to craft a particular narrative by spatially laying them out and linking them.

Both Event Cards and Chains are user created, thereby sticking to our original mission of *crowdsourced sensemaking*.

The goal is to create a repository for primary and secondary source data formatted as small easy to consume cards, and have them shareable anywhere on the internet.

You can also think of this like Lego for news. Events Cards are building blocks which can stand on their own or can be used as part of a larger construction, potentially revealing novel insights. Part of the inspiration comes from wtfhappenedin1971.com. That website is a great example of taking a collection of standalone info and using it to make a larger point.

The nice thing about this idea is that we have clear customer segments:

- People who use note taking apps (Roam Research, Notion, etc...)
- People who write blogs
- Researchers (especially in the Humanities)

The Structure of an Event Card

There are two types of Event Cards: **Singular Events** (*need to think of a better name*) and **Trends**.

1. Singular Events (SEs) are spatially and temporally bound. In other words, they have a specific time and place. They consist of a brief bulleted list, meant to summarize the piece of news in about a minute (tentatively thinking of limiting SEs to a 700 character limit).

> *An aside from Wikipedia: "Research done in 2012 measured the speed at which subjects read a text aloud, and found the average speed across 17 different languages to be 184±29 wpm or 863±234 characters per minute."*

SEs introduce the possibility of templates (similar to Wikipedia or WolframAlpha) for common types of news stories. Of course you can also just have a general SE. Templates off the top of our heads:

- Election win
    - Candidate: _____

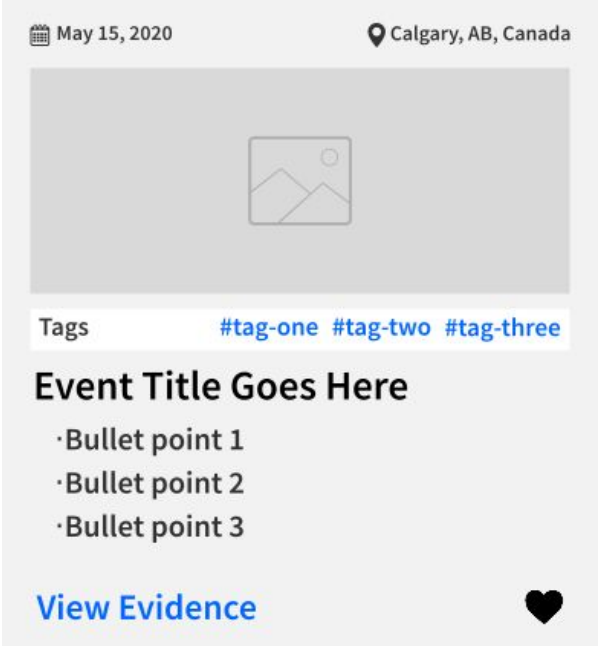
    - % of Votes: _____
    - Turnout: _____

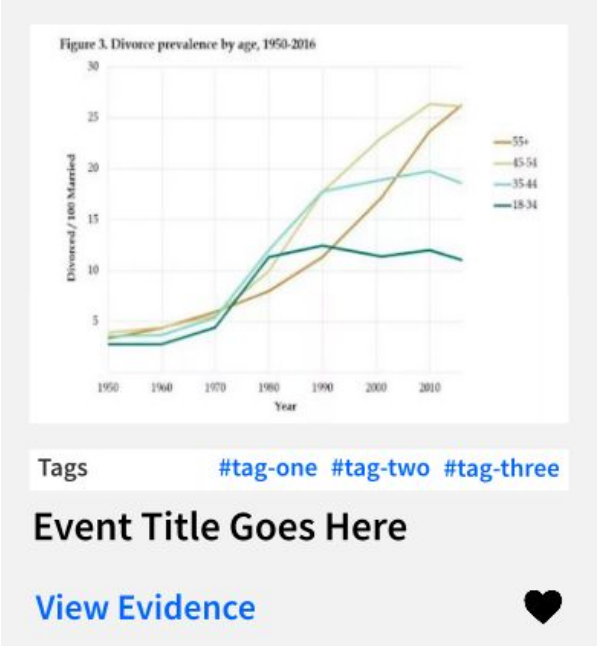
- Mass killing
    - # of Victims: _____
    - Weapon: _____
    - How the weapon was acquired: _____

- Product announcement
    - Industry: _____
    - Manufacturer: _____
    - Ship date: _____

2. Trends, on the other hand, are bound by the axes they have. They're basically little cards with graphs on them. For the MVP, we're thinking of static graphs, although there's no reason why we couldn't have dynamic graphs that show evolution through time (like this one).

Here's how Event Cards look like:





Metadata

Each Event Card has metadata:

- Tags (one required)

  Work in a similar way to Steam tags, or Twitter hashtags. They're a way of categorizing Event Cards. For example you'd be able to search *#donald-trump* and see all Event Cards related to Donald Trump. You can search for multiple tags at once to find stories containing all of the searched-for tags. For example *#donald-trump* and *#impeachment*.

- Image (required)
- Bullet points (SEs only, one required)

  You need at least one bullet point for an SE.

- Title (required)

You need to give your Event Cards a title. For SEs, this would be the equivalent of headlines.

- Evidence (one required)

  Each Event Card has to be backed up by one piece of primary evidence.

- Speculative? (required)

  Binary answer. Are we sure of this Event Card? How good is the primary source data?

- Date (optional, SE only)

  Can vary in specificity (May 14th, 2020 vs May 2020 vs Q2 2020)

- Location (optional, SE only)

  Can also vary in specificity (Calgary, AB, Canada vs AB, Canada)

Upvoting

The little hearts on the Event Cards work like a *like button*. Like any Event Cards you find interesting, and they'll show up in a separate feed of liked items for future reference. Not reinventing the wheel here. A like button would help users bookmark interesting Event Cards, and perhaps notify them when popular Chains have been made using the bookmarked Event Card.

Editorial Board

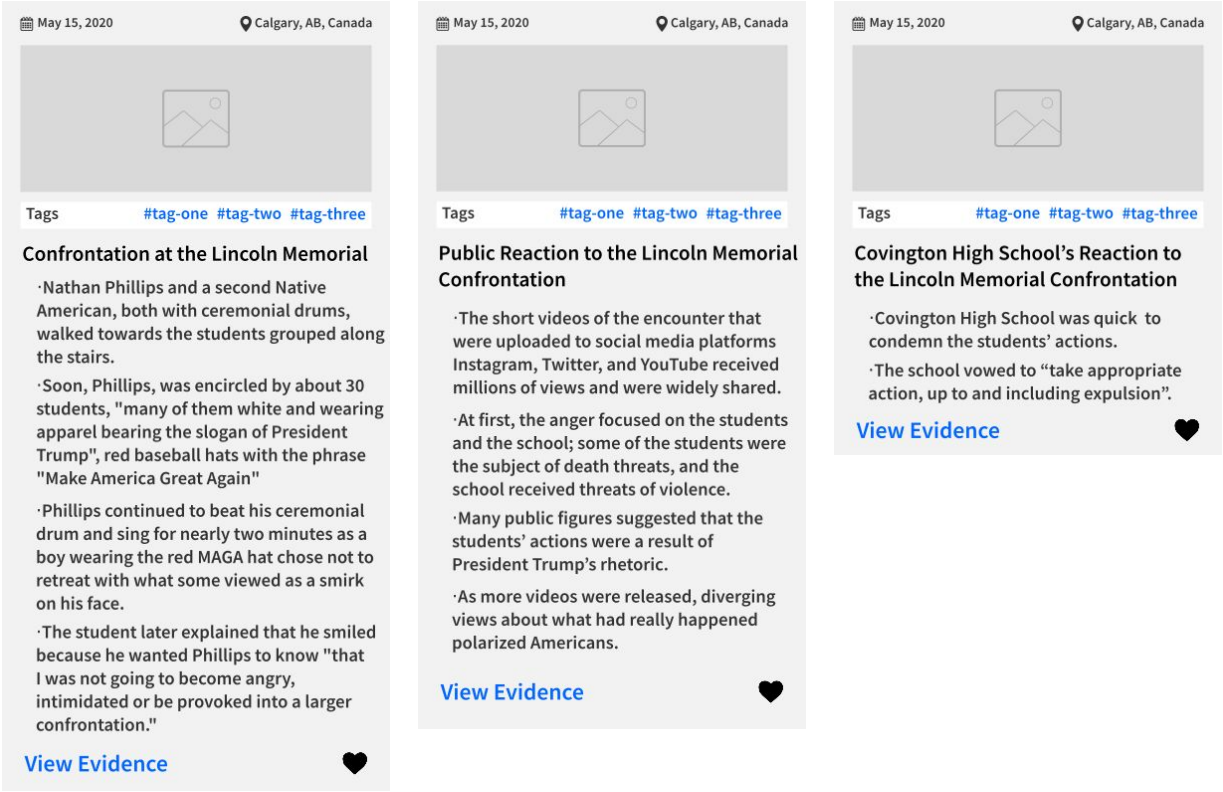
To ensure the quality of Event Cards, there has to be some kind of vetting process or editorial board that enforces quality — deletes spam, double checks sources, merges cards talking about the same event, etc. This is something that would have to be done by members of the community. Their job would not be to

censor information, but to ensure that each piece of information is represented as accurately as possible. It's also important that whether someone joins the editorial board is determined on merit alone. There should be nothing in the way of new members joining, given that they're dedicated.

Haven't thought through how this would work yet. **More work needed on this topic**. Johann suggested something like a pull request in *git* — that's a possibility. Another possibility is to have a system like Wikipedia's.

Event Cards in Action

Here's the news story we keep coming back to in these examples — January 2019 Lincoln Memorial confrontation — in the form of three SEs (the event as it happened, the media's reaction, Covington High School's reaction):



I'd like to encourage others to try coming up with Event Cards in this framework, and/or playing around with what metadata Event Cards should require. The Event Card is at the heart of this whole system: once we get this right, everything else will stem from it.

Event Cards as Building Blocks (Chains)

Now that we have self-contained Event Cards, we can begin to use them as building blocks for larger systems, coming back to the analogy of Lego for news.

With these connections, users can craft narratives similar to wtfhappenedin1971.com (imagine that website being made entirely of Trend

Cards). Or, for example, let's say you want to track the statements that a public figure made over a certain period of time. Or show two contradictory accounts of what happened. You'd be able to do all that with a simple set of tools.

You can also upvote Chains as you do with Event Cards. The most interesting and/or insightful Chains constructed would rise to the top. You can also use created Chains as a starting point for your own construction.

Chains are basically the way in which you can a) draw conclusions from and b) detect patterns in news stories. They're the language in which you'd be able to communicate patterns. To go back to what Johann wrote earlier:

> *"The world is a difficult place to predict (black swans) so speculating the future state is nearly impossible. However, through a system of pattern matching, we might be able to see the causal tree that led to a particular outcome and relate it to current inputs."*

If you wanted, you'd be able to build Chains that are causal trees, and (hopefully) derive novel conclusions from them in this system.

It should be made clear that the purpose of Chains is NOT to tell the truth, the whole truth and nothing but the truth. They're more like narratives — patterns that can be put together out of base Event Cards. As with any narrative, there's inevitably some degree of cherry picking involved. And we think that's okay.

Something that hasn't been thought through yet: what kind of quality control should there be for Chains, if any? Should there be some kind of vetting process like with Event Cards?

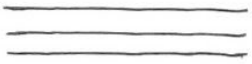
The Suite of Tools for Chain Construction

Any Event Card can be linked to every other, rhizomatically or hierarchically.

You get 4 types of links:

The **Default link**. Implies some ambiguous connection.

The **Causal link**. Implies causality.

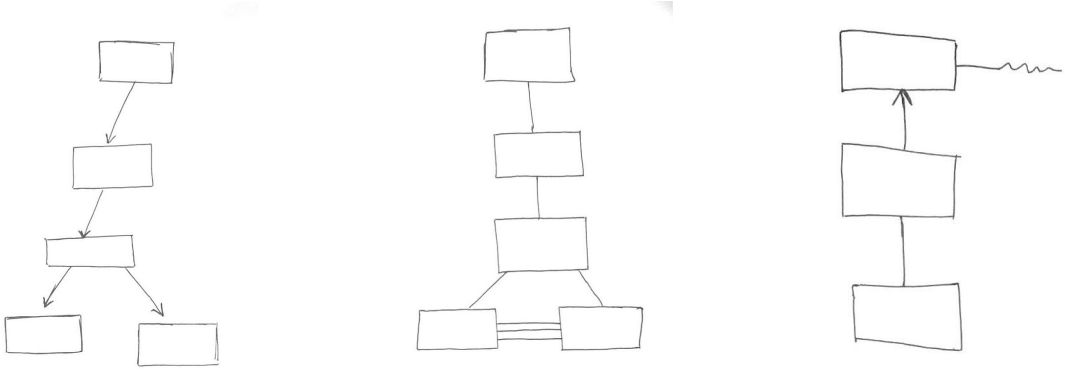


The **Contradictory link**. Implies contradiction.

The **Missing link**. Implies missing information. You'd be able to attach a note to the dangling end of it and elaborate on what you think is missing.

Abstract Examples of Chains

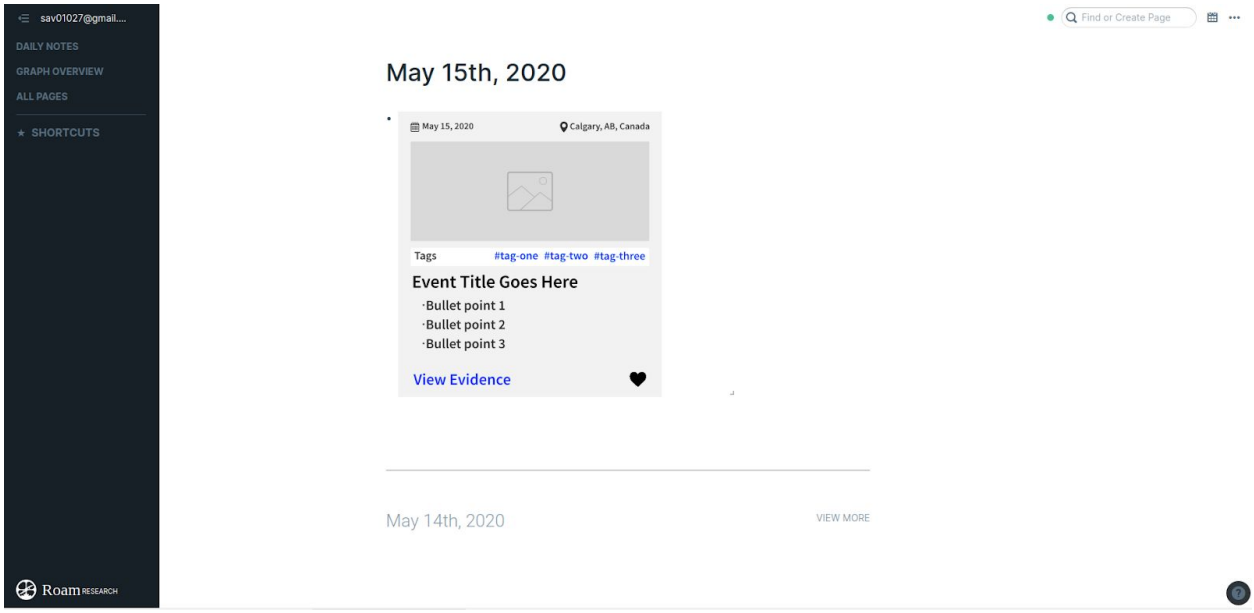
Here are a couple examples of how these Chains might look.



Embedding

This is a very crucial aspect of this MVP idea. The notion that you could take these building blocks and do something with them outside of the platform is big. Include Event Cards in an essay you're writing about politics. Add them to your Roam DB to gain access to more powerful tools. Share Event Cards with friends. Go nuts. Maybe you'd even be able to embed whole Chains.

An example of an Event Card being embedded in Roam:



Other Considerations

Recovering Rootclaim's Functionality

Rootclaim is a powerful platform for making sense of complex events.

The way it works is: a question is asked, and hypotheses are provided. Evidence is collected, and each piece of evidence is weighed based on how reliable and significant it is. Using a Bayesian Tree ($P(H|E) = \frac{P(E|H) \cdot P(H)}{P(E)}$ where *H* is a hypothesis and *E* is evidence), they're able to determine the likelihood of each hypothesis being true. [More details on their website](#).

Unfortunately, Rootclaim is no longer being actively worked on. However, you'd be able to recreate a similar system in something like Roam using ByteCycler

Event Cards as the nodes representing evidence in your Bayesian Tree. Or eventually, in the ByteCycler Chain construction tool itself.

The Problem of Chunking

There are different levels of specificity — different sizes of chunks — that Event Cards can be depicted as:

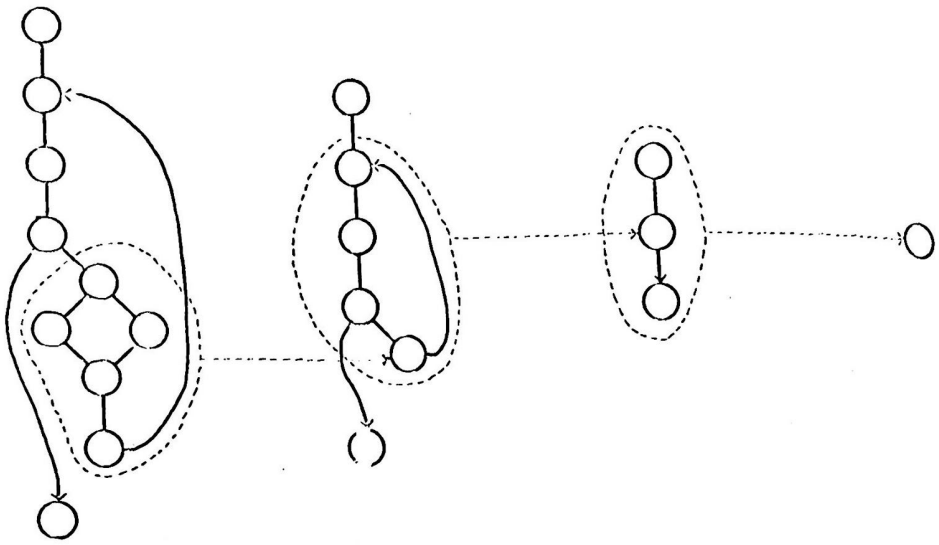


FIGURE 57. The idea of "chunking": a group of items is reperceived as a single "chunk". The chunk's boundary is a little like a cell membrane or a national border: it establishes a separate identity for the cluster within. According to context, one may wish to ignore the chunk's internal structure or to take it into account.

For example:

1. "The media depicted the protest as *X*."
2. "CNN depicted the protest as *X*."
3. "John Doe at CNN depicted the protest as *X*."

Now imagine these are all Event Cards in our system. How would they be organized, if at all? Would #3 be a subcategory of #2, and #2 a subcategory of #1? The lazy solution to this is to not worry about it and just let users create Event Cards. With a good enough search feature, they'd be able to find the Event Card they're looking for. **However, there's probably a better approach to this**. Maybe we *should* be taking chunking more seriously...

Event Card Validity

Should there be validity weights assigned to Event Cards (instead of the binary speculative or not metadata)? Also, if an Event Card is used in more and more Chains, does that somehow speak to its validity? In other words, if a lot of stuff was created with a building block, does that make the block more reliable?

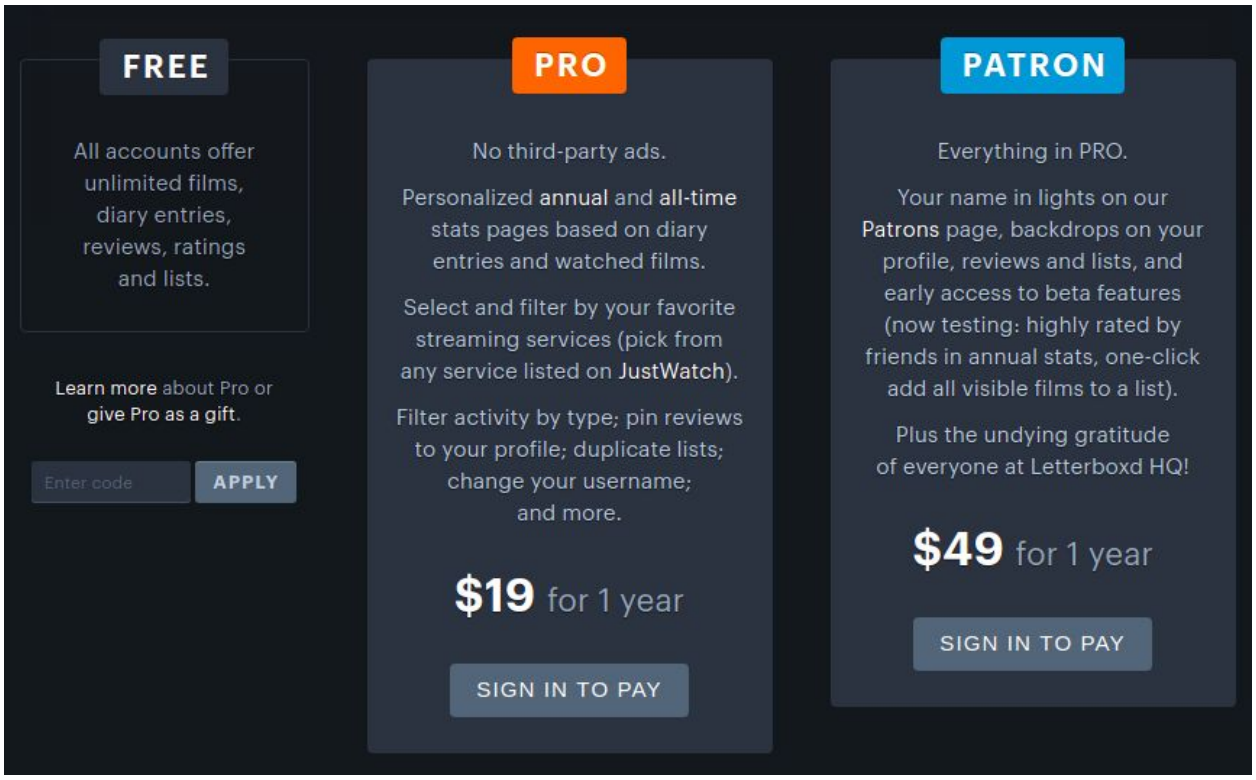
Trustworthy Sources

This is another underexplored area of this idea. What role should sources play in this MVP? Should you be able to follow sources you trust, and optionally filter for cards only backed by the sources you follow? What if specific Event Cards and Chains were OWNED by individuals / sources, and the integrity of the content would therefore rest on their shoulders?

Revenue Model

This is another underexplored area of this idea. However: we're big fans of Letterboxd here — and have noticed that the structure of their app is somewhat similar to what we're proposing here. The big difference being that they focus on movies, not news and trends. One option might be to mimic their revenue

model: neatly-placed ads for free accounts, and an ad-free premium account. Here's Letterboxd's account variants:



Benefits of This MVP

- It has a solid value proposition and customer segment; it's a tool for an existing ecosystem of researchers, blog writers and note takers.
- It's something we'd actually use in our routine. So even if there isn't broad appeal it'd be a useful tool for us. There's your $n = 2$.
- It's simple — no complicated algorithms. Faster implementation time and fewer failure points as a result.
- It's mobile friendly — you'd be able to view and share Event Cards on a phone like you view Tweets.

Conclusion

So to recap: we have Event Cards that come in two flavors — self-contained news stories called Single Events which are bound by space and time and graphs called Trends which are bound by whatever axes you choose. Event Cards are created by users, and the database of Event Cards will grow as more users contribute.

Event Cards can be picked up and embedded in other places around the web — note taking apps like Roam Research and personal blogs, for example.

Event Cards can also serve as the building blocks for larger constructions called Chains. Chains are created by linking together Event Cards using 4 different types of links. Chains are also user created, and the most insightful ones will be promoted — shining a light on novel conclusions and unseen patterns.

If implemented properly, we believe that a system like this would help cut through the noise and improve our ability to make sense of the world — as individuals and as a collective.