

Keeping up on Current Events!

The Impact on Driving Newcomers to Wikipedia

Ang Li
Advisor: Rosta Farzan

Wikipedia responds to 2017 Las Vegas shooting

▶ 10PM, October 1, 2017

(8 hours)

▶ Wikipedia created the page at 6:30AM, October 2, 2017

(12 hours)

▶ Wikipedia has a comprehensive page on the topic

9:00PM, October 2, 2017

Among all the articles, this shooting event article involved the largest number of contributors in Oct. 2017



Revision



Revision as of 06:36, 2 October 2017

On October 1, 2017 A shooting occurred at the [Mandalay Bay](#) at the [Las Vegas Strip](#). The shooting occurred at the Harvest Festival, a 3-day country music festival, where multiple shooters were reported firing into the crowd, at multiple shooting scenes. Over 20 have been wounded, including a police officer.

— David Becker/Getty Images

opened fire

People take cover at the Route 91 Harvest country music festival after apparent gun fire was

The shooter

heard on Oct. 1, 2017 in Las Vegas.

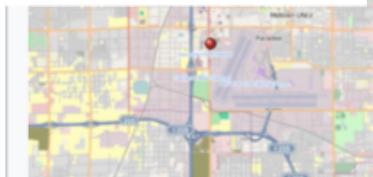
Mesquite, Nevada. Paddock was found dead in his hotel room; he had killed himself with

a self-inflicted gunshot wound. With at least 58 fatalities and 515 injuries, the shooting is

the deadliest by a single gunman in the United States. Due to the enormous number of casualties a final death toll has yet to be officially finalized.

Contents [hide]

- 1 Background
- 2 Shooting
- 3 Casualties
- 4 Perpetrator



Show map of Downtown Las Vegas

Show map of Nevada

Show map of the US

Show all

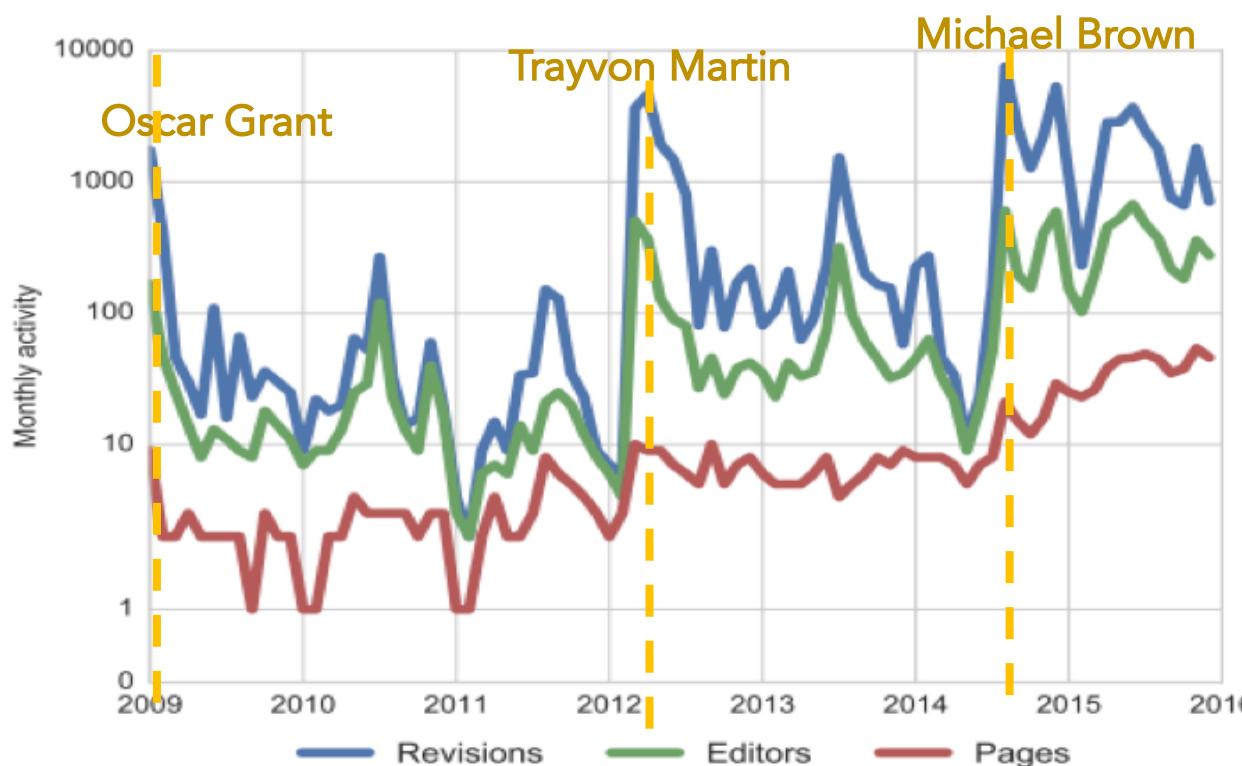
Location Las Vegas Strip, Paradise, Nevada, U.S.

Coordinates 36.0953°N 115.1718°W

Date October 1, 2017
approx. 10:08 p.m. (PDT;
UTC-07:00)

This is not the single case!

Black Lives Matter Events Vs. Wikipedia editors activities



- Offline events drive high online participations
- In any given month since 2003, the **most page views, edits and contributors** in Wikipedia are all current event articles
- **Wikipedia has been a place for public**
 - Seek and share information
 - Different perspectives
 - Make sense of the events
 - Build memory collectively

Where does the increased participants come from?



Existing members who just shift their work to another set of articles?

Can current events also attract new members?



Newcomers are essential for online communities



- Contribute **new** opinions
- Ensure the **diversity** perspectives
- Ensure community **sustainability**

In this research, we ask:



Whether and how current events can be capitalized to **recruit and sustain newcomers** to the online production communities?

RQ1: Can current offline events drive newcomers to online production communities?



What do they do after they join Wikipedia?

- Initial motivation is one important factors influencing users' contribution

- Interested in Wikipedia



high level commitment

- Popularity of events
- High public attention from society



stop contributing soon after events are outdated



- RQ2a: Can current events help **sustain** newcomers?
- RQ2b: Will different motivations lead into **different levels** of contribution and commitment?

Research Platform, Data and Method

What is like in Wikipedia?

- **Everyone** can join and edit almost any on Wikipedia
- Technology to support production and coordination
 - Articles pages + Article talk pages
 - User pages + User talk pages
 - Complete edit history

The screenshot shows the Wikipedia page for "Black Lives Matter: Revision history". At the top, there are two red circles: one around the "Article" tab and another around the "Talk" tab. In the top right corner, there is a third red circle around the "Edit" button in the user menu. Below the header, there is another red circle around the "Talk" tab in the breadcrumb navigation. The main content area displays the revision history with several recent edits listed.

Black Lives Matter: Revision history

View logs for this page

Search for revisions

From year (and earlier): 2018 From month (and earlier): all Tag filter:

Show

For any version listed below, click on its date to view it.
For more help, see [Help:Page history](#) and [Help>Edit summary](#).
External tools: [Revision history statistics](#) · [Revision history search](#) · [Edits by user](#) · [Number of watchers](#) · [Page view statistics](#) · [Fix dead links](#)

(cur) = difference from current version, (prev) = difference from preceding version,
m = minor edit, → = section edit, ← = automatic edit summary
(newest | oldest) View (newer 50 | older 50) (20 | 50 | 100 | 250 | 500)

Compare selected revisions

- (cur | prev) 15:39, 23 January 2018 Pharos (talk | contribs) m . . (159,964 bytes) (-5) . . (intro wording)
(undo | thank) (Tag: Visual edit)
- (cur | prev) 16:32, 22 January 2018 Innisfree987 (talk | contribs) . . (159,969 bytes) (-162) . . (per talk page discussion, subtitle "Quote from David Clarke (sheriff) in Lead") (undo | thank) (Tag: Visual edit)
- (cur | prev) 23:19, 12 January 2018 RobGo (talk | contribs) . . (160,131 bytes) (+2,506) . . (Summary of arguments responding to the the 'lack of focus on intraracial violence' criticism.) (undo | thank)
- (cur | prev) 16:46, 11 January 2018 InternetArchiveBot (talk | contribs) . . (157,625 bytes) (+43) . .

In this research, we analyze:

- Three major current events which happened in the year 2014 across the topics of politics, health, and sport.
 - 2014 West African Ebola outbreaks
 - 2014 Black Lives Matter shootings and protests events
 - 2014 FIFA World Cup
- 133 event related articles
- 8,560 event editors
- 82,299 total edits

The screenshot shows a Wikipedia category page titled "Category:West African Ebola virus epidemic". The page header includes links for "Not logged in", "Talk", "Contributions", "Create account", and "Log in". Below the header are buttons for "Read", "Edit", "View history", and a search bar. The main content area displays the category title and a brief description: "West African Ebola virus epidemic (December 2013 – June 2016) — an Ebola virus disease outbreak in countries of West Africa that affected 10 countries in total (some outside of the West Africa region such as the U.S. U.K. and Spain)." To the right of the text are two small boxes: "Medicine portal" and "Viruses portal". Below the main text, there are sections for "Pages in category 'West African Ebola virus epidemic'" and lists of pages starting with letters O, P, and R.

Category:West African Ebola virus epidemic

From Wikipedia, the free encyclopedia

West African Ebola virus epidemic (December 2013 – June 2016) — an [Ebola](#) virus disease outbreak in countries of [West Africa](#) that affected 10 countries in total (some outside of the West Africa region such as the U.S. U.K. and Spain).

[Medicine portal](#) [Viruses portal](#)

Pages in category "West African Ebola virus epidemic"

The following 27 pages are in this category, out of 27 total. This list may not reflect recent changes ([learn more](#)).

O

- [West African Ebola virus epidemic](#)
- [Operation United Assistance](#)
- [Ouse to Ouse Tock](#)

P

- [West African Ebola virus epidemic timeline](#)
- [West African Ebola virus epidemic timeline of reported cases and deaths](#)
- [Post-Ebola virus syndrome](#)

R

Defining Newcomers in our dataset

Event-driven Newcomers:

- Editors who **edit event related articles**
- **Registered** and **edited event articles** within **2 weeks** after each event
- Included the event newcomers only registered from 1/1/2014 till 12/31/2015
- Exclude the blocked users

Event	# of newcomers
BLM	174
Ebola	197
FIFA	135
Total	506

Evaluating contribution and commitment

Contribution quality of each edit

- The goodfaith edit quality measure is able to assess the quality **for each edit** by giving a score from 0-1
- The revert revision refers to whether an edit made by an editor was removed and reverted to previous version by another Wikipedia editor

(newest | oldest) View (newer 50 | older 50) (20 | 50 | 100 | 250 | 500)
Compare selected revisions

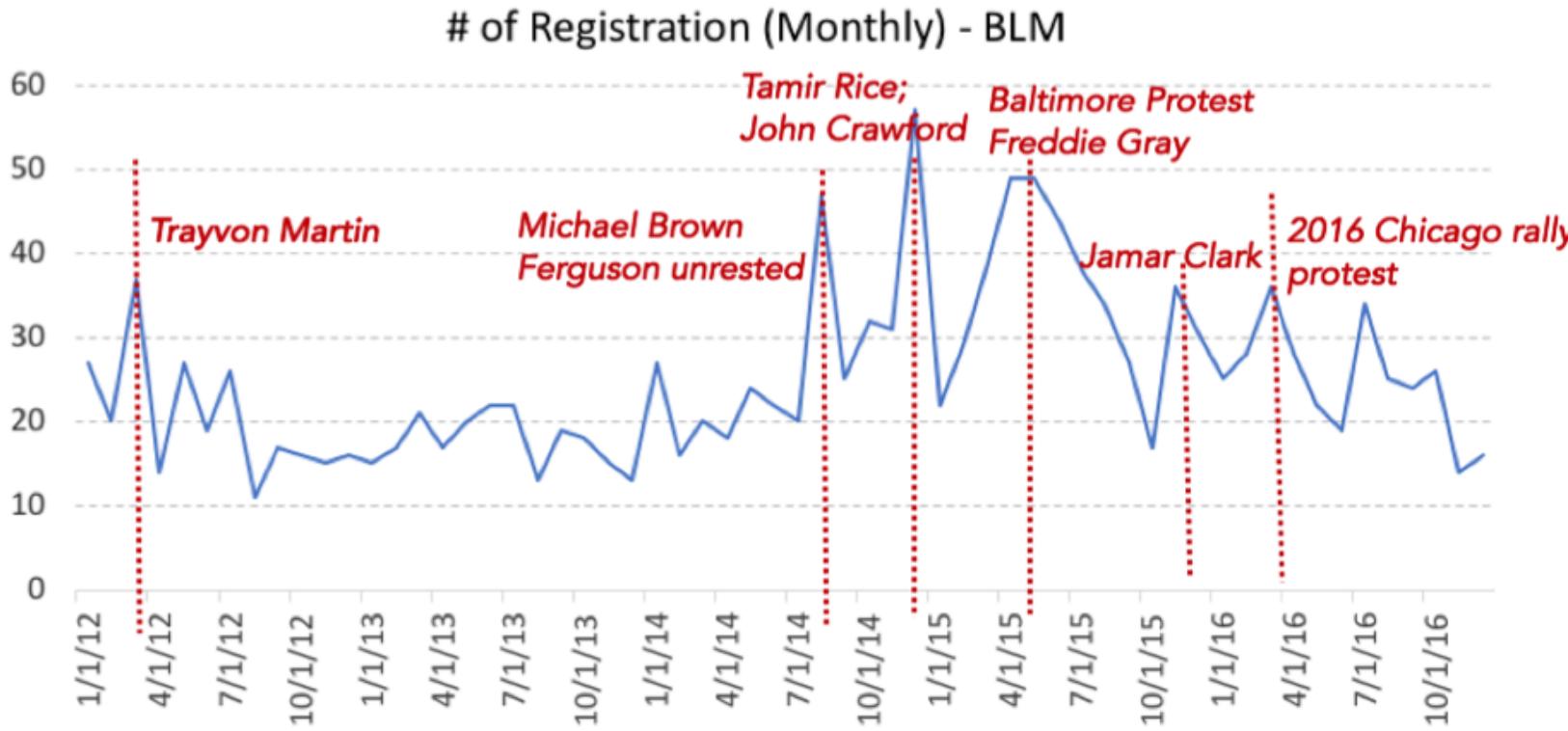
- (cur | prev) ○ 15:39, 23 January 2018 Pharos (talk | contribs) m .. (159,964 bytes) (-5) .. (intro wording) (undo | thank) (Tag: Visual edit)
- (cur | prev) ○ 16:32, 22 January 2018 Innisfree987 (talk | contribs) .. (159,969 bytes) (-162) .. (per talk page discussion, subtitle "Quote from David Clarke (sheriff) in Lead") (undo | thank) (Tag: Visual edit)
- (cur | prev) ● 23:19, 12 January 2018 RobGo (talk | contribs) .. (160,131 bytes) (+2,506) .. (Summary of arguments responding to the the 'lack of focus on intraracial violence' criticism.) (undo | thank)
- (cur | prev) ○ 16:46, 11 January 2018 InternetArchiveBot (talk | contribs) .. (157,625 bytes) (+43) .. (Rescuing 1 sources and tagging 0 as dead. #IABot (v1.6.1) (Ost316)) (undo)
- (cur | prev) ○ 15:14, 8 January 2018 Emir of Wikipedia (talk | contribs) .. (157,582 bytes) (+24) .. (Reverted good faith edits by Shintaraguru (talk): Why delete? (TW)) (undo | thank) (Tag: Undo)
- (cur | prev) ○ 14:03, 8 January 2018 Shintaraguru (talk | contribs) .. (157,558 bytes) (-24) .. (→Criticism) (undo | thank) (Tags: Mobile edit, Mobile web edit)
- (cur | prev) ○ 12:28, 6 January 2018 Certes (talk | contribs) m .. (157,582 bytes) (+30) .. (Disambiguating links to Take Back the Night (link changed to Take Back the Night (protest)) using DisamAssist.) (undo | thank)

Retention of each editor:

- Survival analysis: how long they continued to edit in Wikipedia

Results

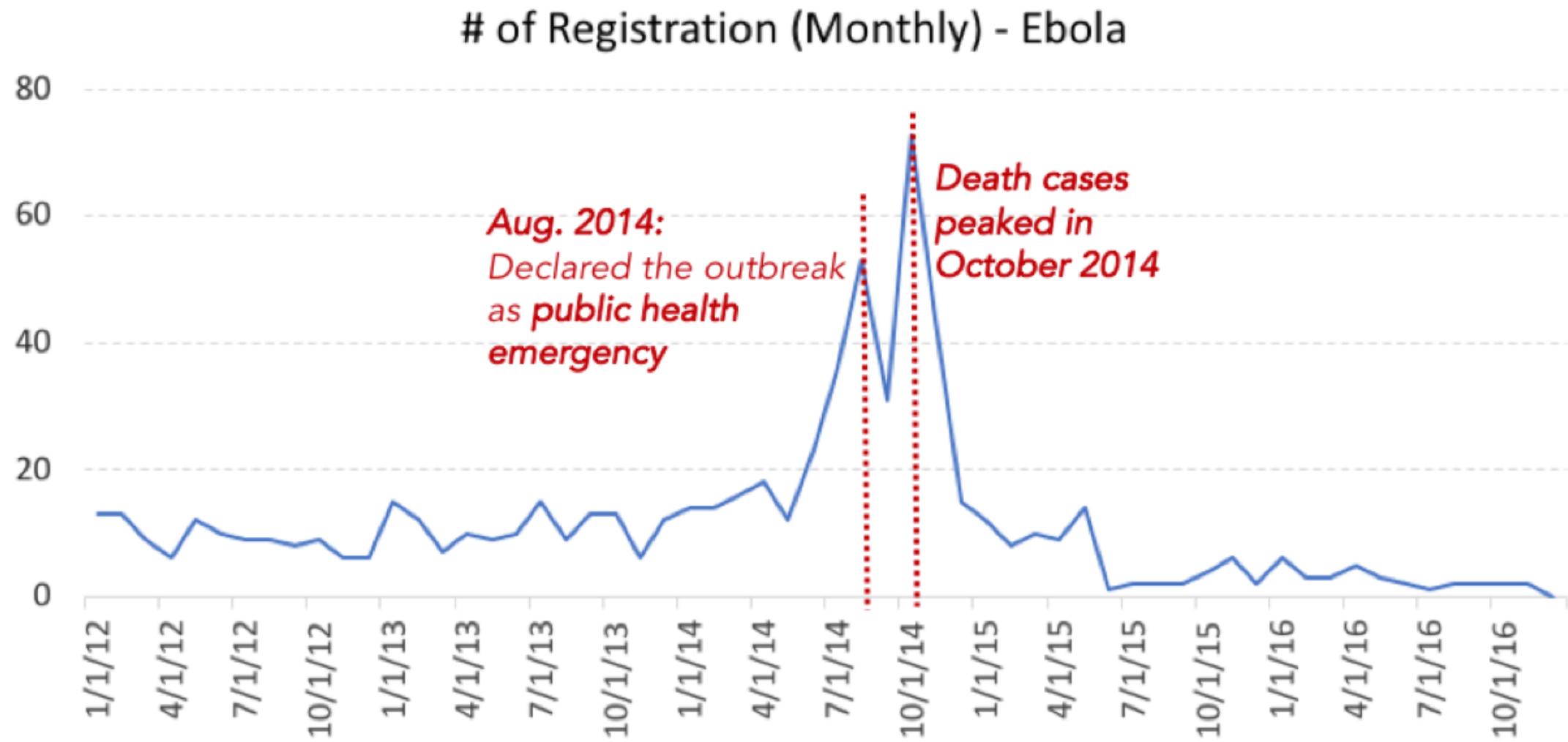
RQ1: Current events attract and recruit newcomers



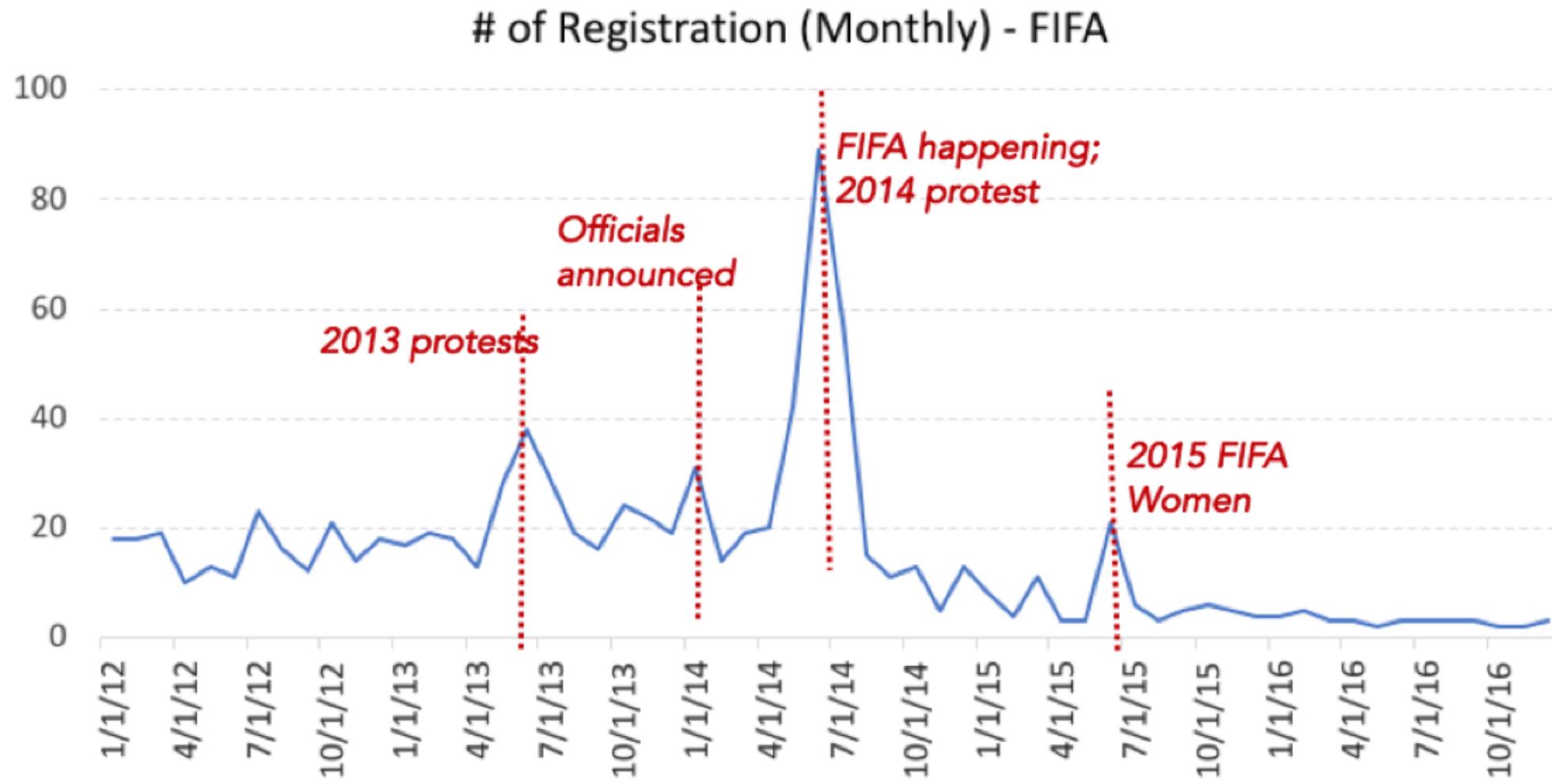
Event editors registration timeline corresponds closely to the offline event timeline

- Same patterns for all three event
- Events can help to recruit newcomers online

Ebola Outbreaks Timeline:

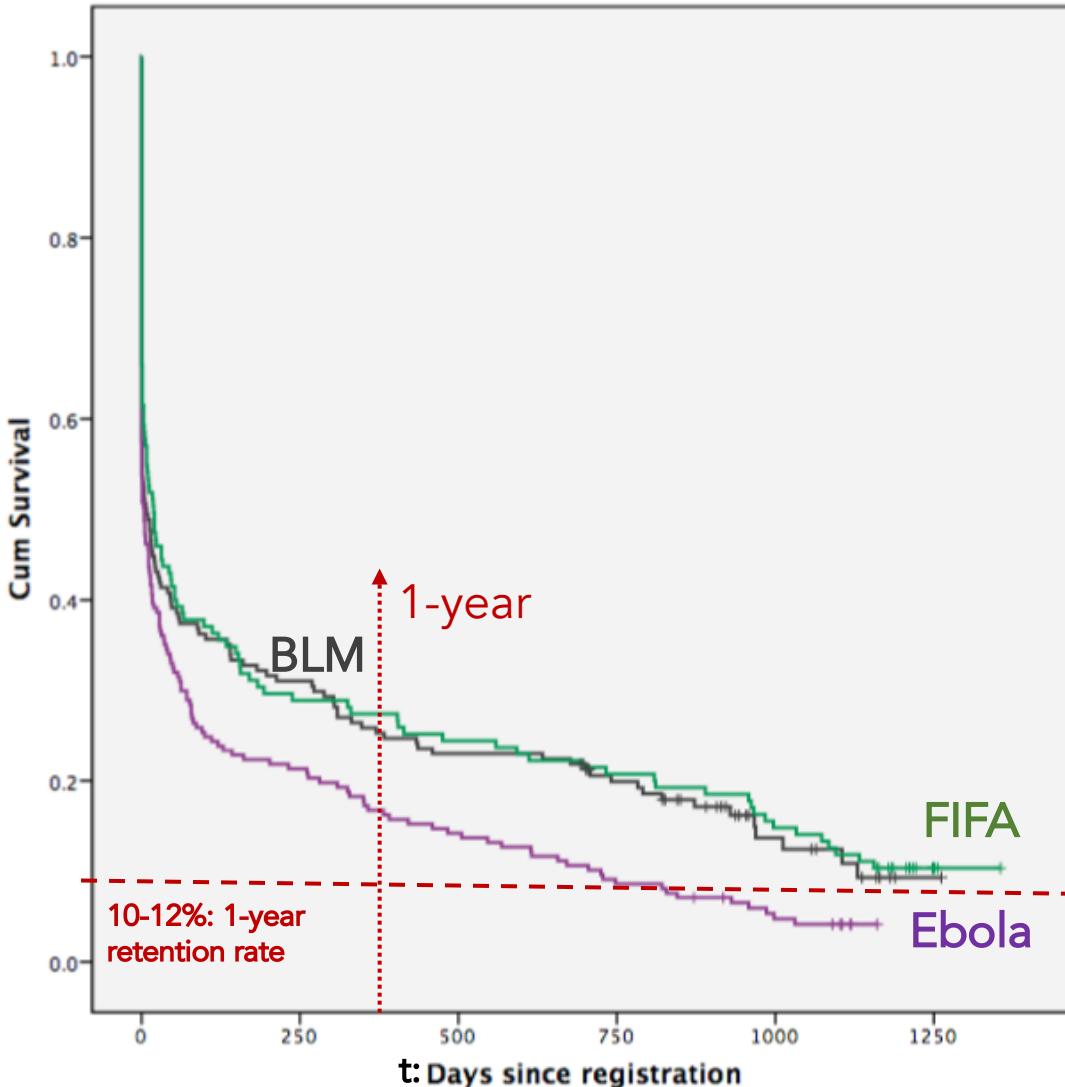


FIFA 2014 Timeline



RQ2a: Current events **sustain** event-driven newcomers

Survival Function: $S(t) = P(T > t)$



- One year retention rate for 3 cases:
 - Higher than generally reported: 10-12% retention after 1 year
- Current events can **help to sustain** newcomers for online communities

RQ2b: Event-driven newcomers have different behavior patterns

- First action → proxy of initial motivation
- Based on the types of Wikipedia page that they **first edited**, we separate the 506 event-driven newcomers into 3 groups

506 newcomers who ever edited the event pages

Event	Socializer	Wikipedia + Event
<ul style="list-style-type: none">• 296 newcomers:• Edit in the event articles as their FIRST action• Motivated majorly by the events	<ul style="list-style-type: none">• 56 newcomers:• Edit in Talk pages and User pages as their FIRST action• Care more about Wikipedia	<ul style="list-style-type: none">• 155 newcomers:• Edit in None event articles as their FIRST action• Care both Wikipedia and the events

Event group: least contribution

- **Event group:** first edit on the event article edit
 - Focused behavior
 - Less unique articles
 - **Rare activities** on user page and talk pages
- **Socializer and Wiki + Event:**
 - Diverse interesting
 - More unique articles
 - **Higher activities** in user pages and talk pages

	First Day		
# of edits	Event	Wiki + Event	Socializer
Unique articles	1.06	2.57	1.60
Article talk page	0.02	0.22	0.58
User talk page	0.03	0.35	2.50
User page	0.06	0.18	3.27

	One Month		
# of edits	Event	Wiki + Event	Socializer
Unique articles	2.53	63.14	47.51
Article talk page	0.71	5.98	7.89
User talk page	0.45	27.99	41.29
User page	0.24	7.97	15.55

Event group: least social interaction

Event: First edit as event article

Isolated in the network

Least amount social interactions with others

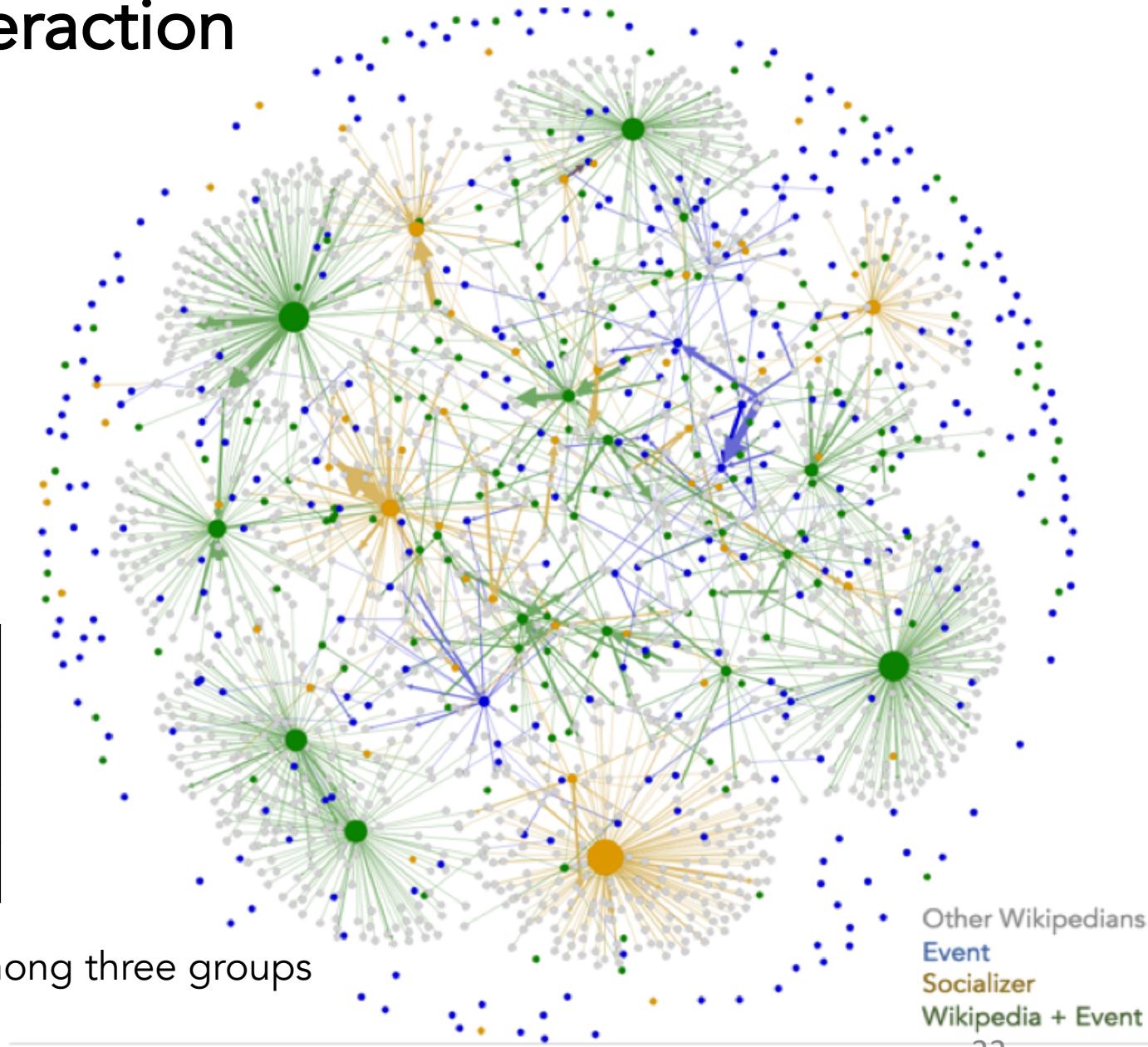
Socializer: First edit as user/talk pages

Wiki + Event: First edit as general articles

More active in sending/receiving msgs

More connection with important nodes (EV)

Measures /Group	Event	Wiki + Event	Socializer
Eigen-vector	2.121e-05	3.239e-04	0.015148
In degree	0.846	3.475	5.432
Out degree	0.233	8.801	15.865



Comparison analysis show statistically difference among three groups

Event group: Lowest retention

Retention:

Socializer > Wiki + Event > Event

Event group was associated with significantly lower retention in the community

One year retention rate:

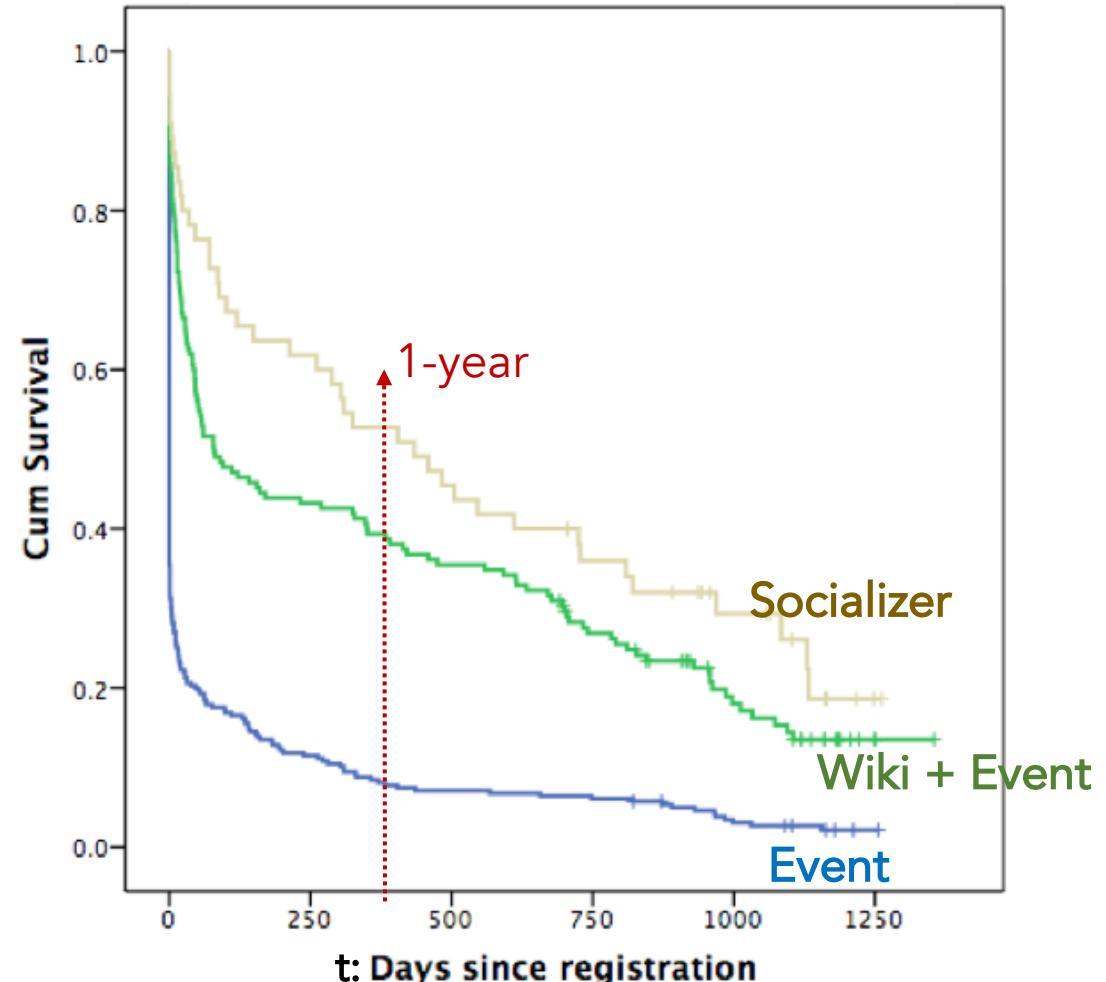
Event: 8%

Wiki + Event: 30%

Socializer: 50%

Statistically significant different

Survival Function: $S(t) = P(T > t)$



Event group: Lowest contribution quality

Good-faith editing score

Mean score averaged per editor

Three groups:		
Group	Users	Prob. (Good edit)
Event	296	0.5047
Wiki + Event	155	0.6685
Socializer	56	0.7455

Revert Ratios

Mean revert ratio averaged per editor
(reverted edits/ total edits)

Three groups:		
Group	Users	Revert Ratio
Event	296	0.4694
Wiki + Event	155	0.2251
Socializer	56	0.1833

- **Event group** was associated with significantly lower contribution quality
- The differences are statistically significant

Why reverting? – Checking comments

For each comment, matching out the short policy template or keywords, and to get the revert reasons

- (cur | prev) ○ 15:36, 17 May 2014 Qed237 (talk | contribs) . . (36,001 bytes) (-354) . . (Reverted 1 edit by Arslan963 (talk): Unsourced and WP:POV. (TW)) (undo)
- (cur | prev) ○ 14:38, 17 May 2014 Arslan963 (talk | contribs) . . (36,355 bytes) (+354) . . (undo) (Tag: Mobile edit)

925 comments with at least one revert reason

Revert reason:
WP:POV → Neutral Point of View
Unsourced → Verifiability

Three top mentioned revert reasons:

- Verification: 587 times
 - Vandalism: 223 times
 - Neutral point of view: 68 times
- Event group were more likely to be reverted due to Vandalism type editing
- The differences are statistical significant

Vandalism reverting	
Group	Vandal revert
Event	0.41
Wiki + Event	0.25
Socializer	0.10

Event group revert examples

- Biased, emotional, vandalism type editing

BLM

Blotter screenshot showing the BLM article edit page. The title field contains the text "I title = Charleston church shooting", which is highlighted with a yellow box. Other fields visible include "{{current|recent mass shooting|date=June 2015}}", "{{Infobox civilian attack", and "I partof =".

Blotter screenshot showing the BLM article edit page. The title field contains the text "I title = Charleston Church Terrorist Attack", which is highlighted with a red oval. Other fields visible include "{{current|recent mass shooting|date=June 2015}}", "{{Infobox civilian attack", and "I partof =".

Good-faith Edit quality: 0.07

Ebola

Blotter screenshot showing the Ebola article edit page. A large block of text describing the Ebola virus's genome and proteins is highlighted with an orange box. The text reads: "The EBOV genome is approximately 19 [[Kilobase#Length measurements|kb]] in length. It encodes seven structural proteins: nucleoprotein (NP), polymerase cofactor (VP35), (VP40), GP, transcription activator (VP30), VP24, and RNA polymerase (L).<ref>{{cite journal|url=http://www.nature.com/srep/2013/130204/srep01206/full/srep01206.html|title=The spatio-temporal distribution dynamics of Ebola virus proteins and RNA in infected cells|journal=Nature|doi=10.1038/srep01206|date=4 Feb 2013|last=Nan|first=Asuka|last2=Watanabe|first2=Shinji|last3=Halfmann|first3=Peter|last4=Kawaoka|first4=Yoshihiro}}</ref> The [[Ebola Virus genetics]] is difficult to study due to the virulent nature of the virus."

Good-faith Edit quality: 0.02

Blotter screenshot showing the Ebola article edit page. A statement "God created this virus to send us back to the stone age" is highlighted with a red oval.

What we learned ...

- Popularity of offline current events **can** attract newcomers online
- **However, it is not that simple:**
 - Event-driven newcomers exhibit different levels of contribution and commitment
 - **Event group** – half of the event newcomers:
 - Edit directly to event articles
 - Low quality of work – **harmful** to the community
 - Leave quickly
- At the same time, **event group** currently have
 - No even welcome message
 - Little social interaction with other people

What can we do to support event-driven newcomers?

Design and introduce some type of socialization strategies and make **event group** more like two other groups:

- Initial **welcome messages**
- **Instructions:** teach them how to be a good community member
- **Social interaction:** improve the social interaction and learn from others
- **Community identity:** guide them to build personal user page
- **Develop their interests:** task routing to give them some other tasks
- **Provide feedbacks**

Future work

- Intervention programs to assimilate event group to two other groups
- Investigating what newcomers really contribute to community
- Social media user generated content can be a better place for understand the event-driven public attention
- Generalization of the current work into other type of communities

Thank you!

Questions?
Feedbacks ~