# Editing Beyond Articles:

Diversity & dynamics of teamwork In open collaborations

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I'm Jonathan Morgan and I'm here today to talk to you about an exciting new open collaborative system that I believe could prove to be a very productive site of qualitative and quantitative analysis for years to come.

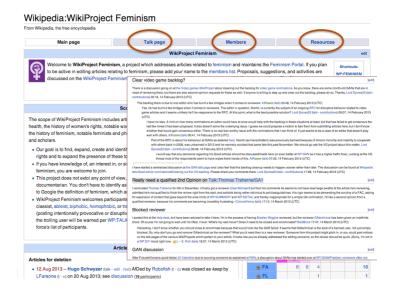


Why Wikipedia? As open collaborations grow, the task of coordinating activity becomes more challenging. Integrating the contributions of a huge number of users into a coherent, high quality product requires coordination among many people.



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We have learned, as a research community, a lot about collaboration from studying Wikipedia. Most of our work focused on how Wikipedia worked in its early days, and how it grew. Now that Wikipedia is a mature collaboration, does it still have anything new to teach us?

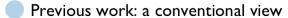


I'm going to talk about WikiProjects. One of the primary ways Wikipedia editors coordinate activity across multiple articles.

WikiProjects are sets of editor-facing pages that Wikipedians use to coordinate work activities that span multiple pages, such as articles within a topic, like writing and improving all the articles related to feminism on the encyclopedia.

WikiProjects don't control the content pages they focus on, and you don't have to belong to a project to edit certain articles or participate in the WikiProject workspace. What's more, anyone can create a new WikiProject, even if it's goals or work activities overlap with existing projects.

Over a thousand WikiProjects have been created over Wikipedia's 12 year history, tens of thousands of Wikipedia editors have participated in these projects. Hundreds of these projects are active today.





Scope: an encyclopedia topic

**Goals:** producing and curating content **Tasks:** editing articles, and developing

resources for editing articles

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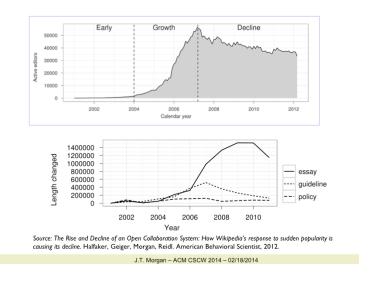
There has been a great deal of research on WikiProjects already. The view of WikiProjects that has emerged from this view is that WikiProjects are engines of collaborative-creation: they focus on an encyclopedia topics, coordinate editors work as they create and expand those articles, and also develop local tools, such as subject-specific style guides, and other resources to support tasks within their scope.



2006 - 2008

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The conventional view of WikiProjects was developed from analysis of data during the era of Wikipedia's history I like to call "peak editing", like peak oil, when there was huge demand for creating new content, but also plenty of



However, one strand of research that has largely been pursued since after the peak editing period has shown that there have been dramatic shifts in community dynamics since 2007:

- The rate of new article creation has slowed
- The population of active editors peaked and began to slowly decline, to roughly 66% of its 2007 peak
- the social climante, particularly how Wikipedia treats newcomers, has changed dramatically
- And the way editors use certain coordination mechanisms, such as policies and guidelines, has changed, with a
  decline in the creation and revision of hard-and-fast rules and a proliferation of informal advice and best
  practices

List of WikiProjects by number of changes to all its pages in the last 365 days; data as of 20:03, 13 February 2014 (UTC).

No. ¢	WikiProject		excl. bots +
1	Wikipedia:WikiProject Deletion sorting	105992	47682
2	Wikipedia:WikiProject Spam	72846	795
3	Wikipedia:WikiProject Military history	26796	14765
4	Wikipedia:WikiProject Articles for creation	23769	20148
5	Wikipedia:WikiProject Medicine	12386	11298
6	Wikipedia:WikiProject Football	12188	9938
7	Wikipedia:WikiProject Video games	9275	7783
8	Wikipedia:WikiProject Guild of Copy Editors	8995	8937
9	Wikipedia:WikiProject Academic Journals	6710	516
10	Wikipedia:WikiProject Film	6602	3510

Source: https://en.wikipedia.org/wiki/Wikipedia:Database\_reports/WikiProjects\_by\_changes

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The current study began, in 2011, as an open-ended investigation of content-focused WikiProjects, with interviews with members of WikiProject Military History. However, in the process of exploring the WikiProject ecology, we began to notice that the conventional view of WikiProjects didn't always hold true of the projects we was seeing.

For example, many of the most active WikiProjects didn't seem to fit the mold. Here's a list of the most active WikiProjects over the past year. You'll see that many of the projects on this list don't seem to fit that mold. What kind of articles does WikiProject "deletion sorting" edit? What kind of work does WikiProject "Articles for Creation" do?



As my colleagues and I continued to investigate WikiProject pages and talk to WikiProject members, we began to formulate a theory that WikiProjects were being used to play a variety of important roles in Wikipedia. Not just for creating content, but also

- Building tools and community policing
- teaching newcomers and answering questions and resolving disputes
- Rescuing orphaned articles from deletion
- Dealing with minutae and backlogs of editing tasks that spanned the entire encyclopedia
- And even brainstorming new solutions to community problems

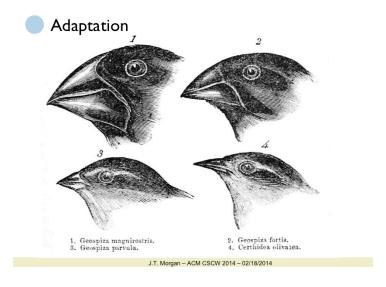
Many of these roles may already have been filled by other community processes, roles, and mechanisms, such as Administrators, help desks, policies and committees. Why did they need WikiProjects focused on these issues?

# Emergence



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One possible reason why WikiProjects may have begun to take on new areas of work is that in complex systems like Wikipedia, new problems and opportunities emerge unexpectedly over time.



Wikiprojects, being highly adaptable, informal mechanisms, evolved to fill these new niches. In this scenario, Wikiprojects as a genre were originally created for the purpose of coordinating article editing activity, but they have evolved over time, like the beaks of Darwin's finches, into multiple species that to suit specialized purposes. Some of which look very different from their ancestors.



Goals: ?
Scope: ?
Tasks: ?

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This led us to come up with an alternative framing for the work of these unconventional projects. If conventional WikiProjects are defined by their goals to improve the quality and coverage of article content, within the scope of a particular topic, by performing a variety of creation, curation, and support tasks related to that topic. Alternative projects are defined negatively as those that don't fit this mold. For instance, if a project takes the whole encyclopedia as its scope, or focuses on some kind of content that is not encyclopedia articles, or eschews a content-focus entirely.

# Research questions

How has the role of WikiProjects changed over the course of the last 10?

What can a focus on alternative WikiProjects teach us about these changes?

#### Data and methods

#### 978 current and formerly active WikiProjects

- Measured edits to project workspaces between 2002-2012
- Classified conventional or alternative based on content analysis of project goals, scope, and tasks

#### 18 project member interviews

 Address individual motivation, experiences, and work practices; project dynamics

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To answer these questions, we first gathered a sample of a large number of Wikiprojects that were currently or formerly active. In order to develop an understanding that encompassed both conventional and alternative projects.

- edit logs of user's on-site activities and differences between different cohorts of editors.
- interviews with Wikipedia editors to understand their motivations, their individual workflows and their group collaboration practices.

#### Dimensions of wikiwork: Barnstars



Defining alternative projects as 'not conventional' and leaving it there isn't particularly informative. In order to come up with a more nuanced undestanding of the work these projects do, we turned to Kriplean, Beschastnikh and McDonald's classification scheme for Barnstars, which are informal awards that Wikipedia editors give each other to acknowledge valued work.

# Dimensions of wikiwork: categories

Editing

Meta-content

Social and community support

Collaborative action & disposition

Administrative

Border patrol

Undifferentiated

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Previous work found that barnstars can be categorized according to seven dimensions of wikiwork. In our study we classified Alternative WikiProjects according to these seven dimensions as well. For purposes of this presentation, I'll only talk about the top four of them.



#### **Editing**

o Creating articles, adding content, citing sources

#### **Meta-content**

o Template/process design, classification

#### Social and community support

o Mentorship, recognition, question-answering

#### Collaborative action & disposition

o Policy interpretation, conflict mediation

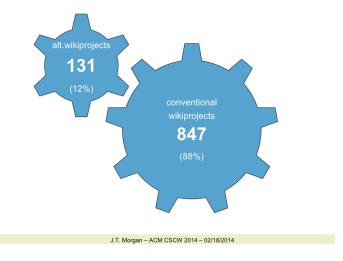
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After identifying alternative projects through an initial round of coding, we re-coded the alternative projects according to the primary type of wikiwork they identified in their project goals, scope and tasks.

# Findings Alternative forms of wikiwork

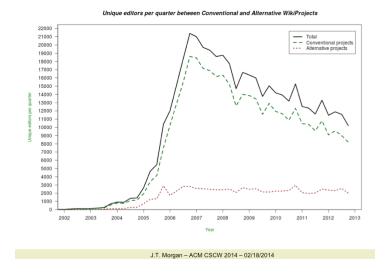
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In the next section I present a sampling of our findings from our coding of wikiprojects, analysis of wikiproject participation over time, and case studies drawn from interviews with wikiproject participants and examinations of wikiproject pages.

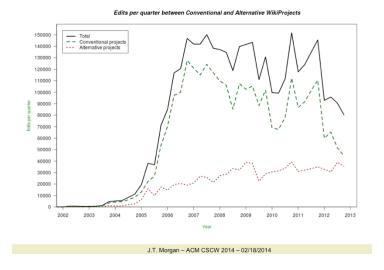


Most previous wikiproject research has operationalized WikiProject work as edits to articles within the project's scope. But if these alternative projects don't edit a particular topic area, or possibly don't even focus on direct article editing at all, they haven't been analyzed by previous research. However, in terms of the amount of coordination and communication happening on the projects themselves, they seem to be some of the most active on Wikipedia. How many of these projects are there? What kind of work are they doing? And how does their work complement that of conventional projects?

More broadly, how can understanding the work of alternative projects help us understand how the work of WikiProjects as a whole changed over time? And what does that say about coordination practices in mature open collaborations more generally?

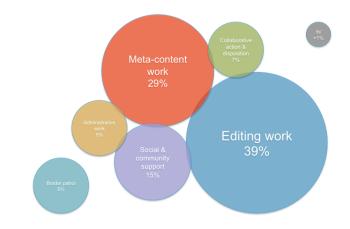


A decrease of 56% unique (registered, non-bot) editors since peak for conventional wikiprojects, only 13% for alternative WikiProjects.

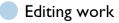


The research team also classified a set of 900 WikiProjects according to whether they fit the conventional or alternative mode. We found that participation in conventional WikiProjects had peaked in 2007, and was actually declining more steeply than on Wikipedia as a whole, possibly because most major topic areas had adequate coverage—the low hanging fruit hypothesis again.

However, participation in alternative WikiProjects was actually growing by some measures. Editors were participating in these projects more than ever, and new ones were still being founded.



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wikify (third-person singular simple present wikifies, present participle wikifying, simple past and past participle wikified)

 (transitive, of text or other content) To adapt to the standards and facilities of an existing wiki.

As a starting point, I've wikified an article I wrote a while ago.

"...for me it was like here's this thing it's got these goals and it wasn't a difficult thing to do. I consider that process really important. One of the greatest improvements I've made to an article was just through wikifying it because it makes it look like it's encyclopedic."

~ Member, WikiProject Wikify

## Meta content work



"I'd been interested in a lot of this meta stuff and I'd kind of touched on Help pages before and made a few edits... I saw someone had proposed this project to improve the help pages and I thought "God, yes they really do need improving"

~ Member, WikiProject Help

# Social and community support



"The main motive was to create a good enough framework for all editors and collaborators to come in... It was as much of a "Rope in the newcomers" thing as "Improve the important articles"

~ Member, WikiProject Today's Article for Improvement

## Collaborative action and disposition



"WikiProject Cooperation is trying to advance a model of cooperation with paid editors... They have a paid editor help board on which paid editors can come and have their drafts reviewed."

~ Member, WikiProject Collaboration

# Discussion Shifting community concerns

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Drawn from interviews and analysis of the project goals, scope and tasks

	Edit rank	2007	2012
_	1	WikiProject Military history	WikiProject Deletion sorting
	2	WikiProject Deletion sorting	WikiProject Military history
	3	WikiProject Video games	WikiProject Football
	4	WikiProject Biography	WikiProject Articles for creation*
	5	WikiProject Professional wrestling	WikiProject Guild of Copy Editors*
	6	WikiProject Football	WikiProject Television Stations*
	7	WikiProject Red Link Recovery	WikiProject Video games
	8	WikiProject U.S. Roads	WikiProject Medicine*
	9	Department of Fun	WikiProject Film
	10	WikiProject Spam	WikiProject U.S. Roads
	11	WikiProject Anime and manga	WikiProject Wikify*
	12	WikiProject Missing encyclopedic articles	WikiProject Chemicals*
	13	WikiProject Council	Department of Fun
	14	WikiProject Film	WikiProject Resource Exchange*
	15	WikiProject Stub sorting	WikiProject Birds*
	16	WikiProject Comics	Counter-Vandalism Unit*
	17	WikiProject Cricket	WikiProject India*
	18	WikiProject Novels	WikiProject Good articles*
	19	WikiProject LGBT studies	WikiProject Mathematics
	20	WikiProject Mathematics	WikiProject National Register of Historic Places*
	'		I



"WikiProjects divide so much into the different kind of work they do. Projects that are gathered around specific article subjects might lose steam once coverage of that subject becomes more complete."

~ P6 WikiProject Unreferenced BLP Rescue



"This WikiProject exists to coordinate efforts to improve editor retention at Wikipedia.

We address existing difficulties, the ever-changing needs of the general community, and provide a positive environment to discuss new ideas towards that goal."

~ WikiProject Editor Retention

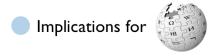
#### Conclusion

- WikiProjects coordinate work beyond editing articles
- Wikiproject participation reflects temporal shifts in community concerns
- Alt.wikiprojects provide an increasingly important mechanism for coordinating valued work

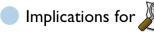
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The implications for these studies are that WikiProjects were an adaptable model for self-organized collaborative work that is versatile enough to effectively coordinate a wide variety of tasks, not just editing encyclopedia articles, and that the projects people participated in most had shifted over time in response to changes in the community's needs, and the nature of valuable work on Wikipedia.

Our content analysis, performed on data from 2012, and my interviews, also showed that WikiProjects had not become increasingly formalized, as has the Wikipedia policy environment: there are still no rules for who could participate and how. The lightweight model of collaboration that many WikiProjects employed did not require bureaucracy to maintain, and since WikiProjects had no official control over anything, they existed largely outside of the formal, top-down bureaucracy that has gradually formed within Wikipedia. In other words, they're still very open.



- Content creation to curation
- Diversity of work practices and requirements
- Acknowledgement of meta- and social-work





- flexible mechanisms for self-organized collaboration
- shifts in work focus as project matures
- ullet surface and support what currently needs doing

# Thank you!

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# Apocrypha



One of the main reasons WikiProjects fail is because they choose an unsuitable scope. The proposal process provides an opportunity for someone to point that out, and ideally redirect the proposer's energy towards something more productive."

This demonstrates that the WikiProject Council filled a unique niche, and also that it developed a novel mechanism for supporting that use case.

### Meta-content work

"Deletion Sorting I kind of went into that with the aim, the idea that this was a problem that needed to be solved... a lot of [article deletion] discussions were going by with not much input... So the idea was that we would have a list of chemistry-related deletion discussions and a list of England-related deletion-discussions so that people who were interested, it was a resource for them to use if they wanted." [p9]

### Collaborative action and disposition



"The purpose of this collaboration project is to create a more hospitable editing environment for Israeli–Palestinian conflict related topics, including through:

- a) actively seeking the cooperation of people who are uninvolved or hold strong and differing points of view
- b) preventing and resolving disputes about the application of Wikipedia policies to these articles."

~ Goals, WikiProject Israel-Palestine Collaboration

I performed two sets of empirical research studies. One on the constitution and evolution of Wikipedia's community rules: the policy environment

The other on the way editors organize work through informal project teams called WikiProjects. Both of these studies have a lateral and longitudinal component: examining similarities between groups, and over time.

The third piece of my dissertation is a design intervention informed by the empirical studies. With a team at the Wikimedia Foundation, I designed and launched a new WikiProject called the Teahouse that focused on providing better socialization and peer support for new Wikipedia editors, with the goal of encouraging a larger and more diverse set of them to stick around and become Wikipedians.

Next, I'll summarize the first two studies. Then, I'll describe the design and evaluation of the Teahouse. Finally, I'll discuss a few intriguing directions for future work.

# Border patrol



WikiProject Spam is a voluntary Spam-fighting brigade. Our purpose is:

- a) to develop standards and processes for recognizing, hunting down, and eliminating link spam
- b) to send a message by our actions and effectiveness that link spammers are fighting a war they cannot win.

~ WikiProject Spam

## Editing work

"So basically we had a script which would pop up when you're on [the Articles for Deletion noticeboard] and for each debate you could click and then select which category it should be in.

And it would then put it on that list and then leave a small notice saying "This discussion has been listed in the list of chemistry related deletion discussions."
P9 WikiProject Deletion Sorting

#### Related work

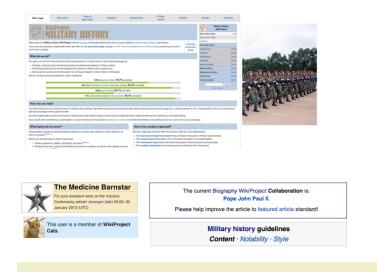
- Scaling Consensus: Increasing decentralization in Wikipedia goverance (Forte et al. 2008)
- Herding the cats: the influence of groups in coordinating peer production (Kittur et al. 2009)
- The effects of diversity on group productivity and member withdrawal in online volunteer groups (Chen et a. 2010)
- Organizing without formal organization: group identification, goal setting and social modeling in directing online production (Zhu et al. 2012)
- Coordination and beyond: social functions of groups in open content production (Forte et al. 2012)
- Searching for the goldilocks zone: trade-offs in managing online volunteer groups (Wang et al. 2012)
- Project talk: Coordination work and group membership in WikiProjects (Morgan et al. 2013)
- Managing complexity: Strategies for group awareness and coordinated action in Wikipedia (Gilbert et al. 2013)

Previous research on WikiProjects has generally analyzed these projects as groups, have often focused on the mechanisms those projects use to support group collaboration, and have used group theories to examine the dynamics of WikiProjects. For example, how project members pursue group goals, form common bonds, and develop a sense of common identity.

Framing WikiProjects as collaborating groups seems appropriate given what we know about them: projects develop group goals, define group tasks, and provide lists of group members, and project members interact with one another in a shared workspace.

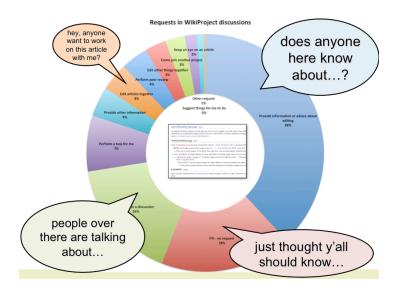
They provide ways for editors to identify with the project, and also to collaborate directly with other group members.

And as I mentioned before, some projects also engage in group collaboration and provide engaging ways for members to advertise their affiliation with the group.



Previous research has also often focused on larger and more active WikiProjects. It has found that many of these projects exhibit complex group dynamics and that they are often intensely collaborative. WIkiProject Military History, for example, one of the oldest and most active projects on Wikipedia, is very organized.,

This and other major projects have developed sophisticated coordination mechanisms.



In previous work, we discovered that the majority of discussions on WikiProject talk pages are reflect a rather lightweight approach to collaboration: the largest category of request posts were to provide targeted advice or information that helped an editor perform a task independently. The second largest category was information-only posts, that did not contain any request at all. The third largest category were requests to participate in a discussion on another forum on Wikipedia. Requests to edit collaboratively (whether on articles or on non-article content) comprised only 7% of our data.

The overall implications of these findings were that WikiProject collaboration practices are less like traditional project teams in organizations and more like open collaborations in a different domain that have been extensively studied: open source software projects. Tasks are self-assigned, membership is transient, and that coordination work is loosely coupled from production work: some people elect to manage the project workspace, while others tend to focus more on the set of work tasks the project focuses on.

11	Wikipedia:WikiProject National Register of Historic Places	6090	5503
12	Wikipedia:WikiProject Missing encyclopedic articles	5558	5550
13	Wikipedia:WikiProject U.S. Roads	5230	3776
14	Wikipedia:WikiProject Mathematics	5068	3077
15	Wikipedia:WikiProject Food and drink	4250	3625
16	Wikipedia:WikiProject Editor Retention	3794	3538
17	Wikipedia:WikiProject Anime and manga	3456	2299
18	Wikipedia:WikiProject Russia	3378	450
19	Wikipedia:WikiProject Resource Exchange	3245	3241
20	Wikipedia:WikiProject Elements	2877	2430