

Forus, A NEW PLATFORM FOR REASONABLE DEBATING

InYong Koo

Department of Electrical Engineering
KAIST
iykoo010@kaist.ac.kr

MinSu Kim

Department of Mathematical Science
KAIST
as12088@kaist.ac.kr

ABSTRACT

The advance of the internet has enabled people to share ideas without physical limitations. However, the internet services are making people more ideologically biased. We need an internet platform that provides balanced world-view and different ideas. As a solution, we introduce *Forus*, a novel design of a debate forum to mediate the radicalizing effects. We implemented a demo website and conducted a survey. We got supportive feedbacks and constructive comments, and thought of ways to improve our design.

1 INTRODUCTION

We are living in a world where we can acquire information with ease. The advance of the internet has enabled people to share ideas without physical limitations. But did it allow people to make wiser decisions?

There are arguments that internet services are making people more radical. Unlike expectations, people do not search for arguments with diverse perspectives. Instead, people tend to look for evidence that supports their initial thoughts. And social media platforms aren't helping. In Facebook and Twitter, people we usually interact with are called 'friends' and 'followers.' Those terms explicitly tell that a user communicates with people sharing similar interests, environment, and ideas. The platform acts as an echo chamber, repetitively reinforcing one's belief and world-views in a closed network of similarly-minded people.

In our survey described in section 3, we found out that people also agree with the arguments above. (figure 1) 72.3% of the participants agreed that social networks made people radical, and 89.5% agreed that people were ideologically biased in recent years.

To address this problem, we introduce *Forus*, a novel design of a debate forum to mediate the radicalizing effects. *Forus* delivers persuasive arguments of both sides simultaneously regarding a topic. By so, a user can acquire balanced information and opportunities to compare the reasons by themselves.

Another key element of *Forus* is the 'opponent rating' system. In *Forus*, a user can participate in a debate by initially making a stance of either 'agree' or 'disagree.' This is for presenting the opinions of both sides. The arguments are sorted by the 'likes,' which can be only given by the opposing side. We did not want to present the pieces of evidence of 'reinforcement' to other users. The 'likes' by advocates (people with the same stances) may not reflect the quality of the opinion as much as the approvals from the opposing side. Also, showing respect to different minded people is a positive behavior, and we wanted to encourage that.

For more information, please visit [about page](#) we implemented.

We implemented a demo version of *Forus* website and tried to get responses from the actual users. However, some functionalities of the website were incomplete and we could not gather a sufficient

number of users to actually make the website work as a forum. So we conducted a survey and asked people to explore the website and share their thoughts.

2 IMPLEMENTATION

For the demo, we built a website. Since we were introducing a new interaction mechanism such as the simultaneous presentation of two articles and the opponent rating system, we could not rely on existing web services. We had to customize the interface and all implementation details. We built a website from scratch.

2.1 FRONT-END DEVELOPMENT

We used various resources to bring our design to the real world.

We utilized the Bootstrap framework to make our website look fancy. Bootstrap also supports responsive web design towards various devices. Our website adapts to different screen sizes from a mobile device to a PC screen.

We wanted people to explore and participate in *Forus*. To add interactivity, we wrote our dynamic webpage in PHP. We distributed the webpage using Apache. Finally, we used the MySQL database server to manage information. We used a WAMP package supported by Bitnami to install and utilize the Apache, MySQL, and PHP.

You can visit *Forus* demo website here: <http://110.76.74.76/home.php>. The website is available until 2020 January and will be exterminated.



Figure 1: Screenshot of the *Forus* website

As can be seen from 1, Arguments sorted by 'likes' are presented side-by-side under the topic. One can participate in a debate by pressing either 'agree' or 'disagree' button. One may or may not post an argument.

Once a user takes a stance, *Forus* will deliver opinions from the opposing side. The 'like' button is now available. Finally, the user can hit 'I'm persuaded' button to change one's status from either 'agree' or 'disagree' to 'neutral (resolved)'. We added this functionality to see how users are influenced by the interaction in *Forus*.

2.2 DATA MANAGEMENT

In the MySQL server, Data are managed in three tables: `userinfo`, `opinions`, `likes`. `userinfo` table contains information about the users. We did not implement an additional reg-



Figure 2: Screen once participated in an debate (as 'agree')

istration tab. The first log-in will generate an account. The account has information on the user id number, the user name, and password.

`opinions` table contains information about the posted opinion. It contains the opinion id number, the issue id number which the opinion regards, the stance ('agree', 'disagree', or 'neutral'), title and argument text, and the number of likes it gathered (default -1 if the argument is not written).

`likes` table keeps count of who liked what so that a person cannot press 'like' multiple times.

The actual description is shown in 3. In actual service, we will also need a table to manage issues. We only put three issues on the demo website, but we should be able to add a new debate topic at will.

```
mysql> DESC userinfo;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id     | int(11) | NO | PRI | NULL | auto_increment |
| username | varchar(20) | NO | | NULL | |
| pw     | varchar(20) | NO | | NULL | |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> DESC opinions;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id     | int(11) | NO | PRI | NULL | auto_increment |
| pc     | int(1) | NO | | NULL | |
| opinion | mediumtext | YES | | NULL | |
| likes  | int(11) | YES | | -1 | |
| userid | int(11) | NO | | NULL | |
| title  | tinytext | YES | | NULL | |
| issueid | int(11) | NO | | NULL | |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.00 sec)

mysql> DESC likes;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id     | int(11) | NO | PRI | NULL | auto_increment |
| opinionid | int(11) | NO | | NULL | |
| userid | int(11) | NO | | NULL | |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

Figure 3: Table descriptions

3 EVALUATION

We shared the demo website of *Forus* and got feedbacks. Our survey included some questions about the problem definition, our solution, and the user-friendliness of our interface design. 19 participants answered our survey. Here are the actual questions and replies we gathered. ¹

1. What is your primary interface for using social networks?

(a) Computer homepage	42.1%
(b) Android app	31.6%
(c) IOS app	15.8%
(d) Mobile homepage	10.5%
2. Do you think social networks make people radical?

(a) Agree	73.7%
(b) Disagree	26.3%
3. Do you think people have been divided politically and ideologically in recent years?

(a) Yes	89.5%
(b) No	10.5%
4. Do you think *Forus* new recommendation system can solve clustering problem in political issues?

(a) Yes	63.2%
(b) No	36.8%
5. Are you interested in using *Forus* if it is complete?

(a) Yes	68.4%
(b) No	31.6%
6. *Forus* has problem with

(a) lack of hooks	52.6%
(b) interface and design	26.3%
(c) main concept	0%
(d) etc	21.1%

3.1 SURVEY ANALYSIS

In question 2, we were able to see that people empathize on our problem definition.

The arguments agreeing that social networks make people radical includes

- "the current recommendation systems are designed too easy for the people to be trapped in a filter bubble."
- "I found that Social Networking Services generally recommend information which is relevant to user. It leads the user to be radical and harden one's thought."
- "Because you are more likely to be exposed to similar ideas, leading to your opinions becoming more radical."

Disagreeing arguments includes

- "It only makes you radical if you spend too much time on it."
- "Social networks are just a means of connecting and communicating, so they're not strictly the problem"
- "I will remain skeptical until proper, large-scale and public studies are done about this."

¹You can see the full result [here](#).

In question 4, more than half of people positively estimated that *Forus* can solve the radicalizing effect. In question 5, a similar number of people said they're interested in using *Forus* if it is complete.

People not enthusiastic to our solution left us some valuable comments of concerns like

- "People using *Forus* would be already conscious of this problem. The 'problematic' users won't change."
- "I'm not interested in debating during my free time. I obtain my opinions based on my own thoughts, not others"
- "If someone's opinion is really long, I think I will not want to read them."

Although many people thought *Forus* can be a healthy platform, they thought the forum lacks of entertaining features (like 'hook'). Also, there were comments about the interface designs.

4 DISCUSSION

Survey results show that many people agree on initial problem settings. Clearly, politics and ideological biases have grown in recent years, and many have agreed that social networks can accelerate these problems.

From a scientific point of view, however, more data should be required for rigorous statistical research. Also, we need correlation analysis and scientific identification of the factors that cause political bias. Our project started without these parts, and a participant indeed pointed out this flaw.

More than half believe that *Forus* can be a solution regarding the radicalizing behavior of existing social media platforms. However, the way *Forus* pursues to be effective requires a "hook" that attracts people like previous social networks, and creating "hooks" is a challenging problem because some people do not enjoy online debating.

Also, there were some indications of the possibility of creating another bias in the current *Forus* interface. When users see the results of voting on people with opinions, bias can occur if people are gathered to one side.

The data and statistics presented to the user should be properly arranged and specific policies should be in place. In the demo version of *Forus*, we didn't implement every detail we thought about, but only big ideas. However, a detailed implementation will be required for *Forus* to affect the direction we want.

For example, we can regulate the total length of the posts. Because people can be bored with long posts, we should lead people to write short and clear. It is similar to twitter's policies, but that can arouse the problem of people posting in a stimulative manner. It is hard to keep a balance between entertaining and healthy.

We can improve the account managing. It would encourage people to express their interests and influential level acquired from healthy debates. And yet again, we need to carefully select features to prevent clustering of similarly-minded people.

Furthermore, to test our ideas more numerically, we need to use statistics about the people who are persuaded, who have changed their opinions. Our website implements such a feature, but we couldn't do the statistical analysis because we didn't get enough beta-test participants.

More time in beta-testing should be used to assess whether *Forus* is useful with proper statistical analysis.

5 CONCLUSION

In this project, we tried to prevent people from getting ideologically biased via our novel debate forum design, *Forus*. *Forus* has features of encouraging people to meet different ideas and have a critical, balanced view of the controversial issues.

We implemented a rudimentary demo version website to show how *Forus* interaction experience would be like, and surveyed to evaluate the effectiveness of our project. Many people emphasized with our problem setting and positively reviewed our solution. Some also left valuable comments to improve *Forus* to be a functional, healthy platform. We thought through our ideas and were able to have some in-depth understanding of the radicalizing effect of internet services. Also, this was the first time we developed a front-end application and it gave us a challenging learning opportunity too.

6 GITHUB REPOSITORY LINK

<https://github.com/quotation2520/CS489>

- MinSu Kim: as12088
- InYong Koo: quotation2520