

Focal: a Personalized Mobile News Reader

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ABSTRACT

Traditionally in mobile apps, news articles and recommendations are presented to the users as an ordered list. This ordering often reflects the freshness of the stories. Although most users are satisfied with such presentation, some users have different expectations and want to read stories related to some specific topics.

In this demo, we depart from the classic list-view layout and aim at exploring other ways to present news stories to the users. We introduce *Focal*, a personalized mobile news reader, which implements a fisheye-inspired interface. We briefly describe its system architecture and interface.

Categories and Subject Descriptors

H.3.3 [Information Storage and Retrieval]: Information Search and Retrieval—*Information filtering*

Keywords

recommender system; news; mobile; interface

1. INTRODUCTION

The proliferation of online news creates a need for filtering interesting articles. Most mobile news apps present to the users articles and their associated recommendations as an ordered list. The ordering often reflects one dimension of the articles such as the freshness. However, news articles have more than one dimension like popularity or relevance [3].

Although most users are satisfied with such presentation, some users have different expectations and want to read news that are either popular, or related to some specific topics. It is thus desirable to have a single interface that captures all these dimensions at a glance [6].

A list-view interface constrains the users into extensive scrolling while browsing the list. In addition, items at the bottom have a smaller chance of being clicked [1]. As a result, researchers have looked at the issue of visualization of

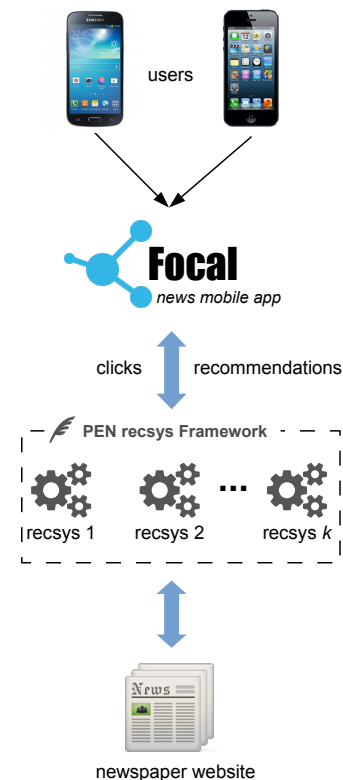


Figure 1: System architecture and components.

recommendations, but they have mainly focused on product recommendations [5, 6]. The news domain has specific challenges: it is very dynamic. News stories are subject to trends and reader preferences change over time.

To this end, we present *Focal*, a personalized mobile news reader. *Focal* displays stories with a fisheye-inspired interface [2]. The key idea of *Focal* is to build a graph of the current news articles, and focus on a region of this graph depending on the preferences of the user.

We believe that such an interface is more intuitive for browsing and reading news stories. Thus, we aim at comparing the classic list-view interface to our graph-based one. We also plan to evaluate different recommender algorithms in order to identify which ones fit the best the application of mobile news recommendations.

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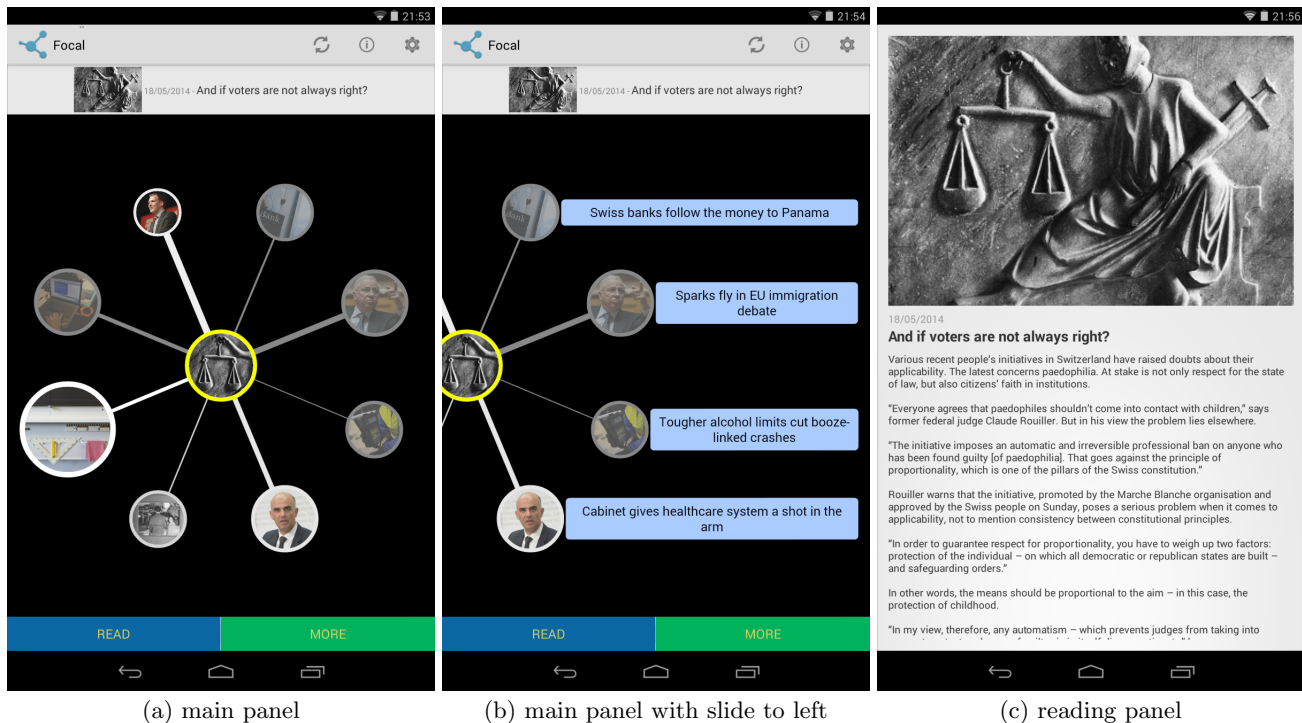


Figure 2: Screenshots of Focal.

2. SYSTEM ARCHITECTURE

Figure 1 gives a brief overview of the main components interacting with Focal. When a user clicks on a news story, Focal sends the click to the PEN recsys framework [4]. The PEN recsys framework will assign randomly a recommender system and provide recommendations. It has a set of implemented recommender algorithms which are designed to take into account one or many dimensions of the news domain. For instance, a content-based recommender will only take into account the relevance between stories, while others recommend only the most popular articles. The PEN recsys framework also periodically gets the latest stories from the newspaper website. This architecture is very flexible and can be adapted to multiple news sources.

3. DESIGN AND INTERFACES

Figure 2(a) shows Focal’s main panel. The user can easily recognize the 3 dimensions of a story: freshness, popularity and relevance.

Freshness is illustrated as the transparency of the node. When a node is very transparent, the associated story is old. *Popularity* is modelled as the size of the node. A large node represents a very popular story. *Relevance* is designed as the thickness of the edges between two articles. When an edge is very thick, the two associated stories have a high relevance.

A picture may not always be representative of the topic of a story. Thus, it is possible to slide the graph to the right or left such that story titles will appear (see Figure 2(b)). Finally, the user can double-tap on the node or tap on the read button to access the reading panel (Figure 2(c)). The *more* button moves the selected story to the central node and generates new recommendations. That way, the user moves the focus to another region of the news graph. Hence, a user

browses the news like performing a walk through a graph of recommended stories.

4. CONCLUSION

We presented *Focal*, a personalized mobile news reader which displays stories as a fisheye-inspired interface. Focal captures the multiple dimensions of news stories into one single interface.

At the time of writing, we are conducting a user study to compare the different layouts (list vs graph). We plan to improve Focal based on the feedback of this user study. Finally, we want to evaluate the performance of different recommender systems when using Focal, and see which dimensions are the most important to the users.

5. REFERENCES

- [1] N. Craswell, O. Zoeter, M. Taylor, and B. Ramsey. An experimental comparison of click position-bias models. In *Conf. on Web Search and Data Mining*, pages 87–94, 2008.
- [2] G. Furnas. Generalized fisheye views. In *Conference on Human Factors in Computing Systems*, pages 16–23, 1986.
- [3] F. Garcin, C. Dimitrakakis, and B. Faltings. Personalized news recommendation with context trees. In *Conference on Recommender Systems*, pages 105–112, 2013.
- [4] F. Garcin and B. Faltings. Pen recsys: a personalized news recommender systems framework. In *News Recommender Systems Workshop*, pages 3–9, 2013.
- [5] P. Janeczek and P. Pu. Opportunistic search with semantic fisheye views. In *Web Information Systems*, pages 668–680. Springer, 2004.
- [6] M. Kagie, M. van Wezel, and P. Groenen. Map based visualization of product catalogs. In *Recommender Systems Handbook*, pages 547–576. Springer, 2011.