



Aalto University  
School of Arts, Design  
and Architecture

AALTO  
MEDIA FACTORY

*“Co-operation has been agile and provided us new know-how in the field of visuality in mobile device and tablet development”*

**Lotta Holm, Head of analytics and Research, KSF Media:**

*“The consortium recognizes a great need for HapLab – both in the field of product development and educating new professionals for the field”*

**Kimmo Oksanen, CEO, Silencio**

*“The co-operation has produced many useful results in both detail and overall concept levels.”*

**Ari Erkinharju, CEO, Leia Media**



TEXT AND IMAGES: HARRI HEIKKILÄ

MARCH 2016

– NOVEMBER 2016

# HABLAB REPORT





# HAPLABREPORT

MARCH 2016  
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*HapLab is an expert centre in design for touch-screen devices and in e-reading research at Aalto University Media Factory. In our second year we continued to develop evaluation methods, published an education application to support these methods, held courses, and collaborated with partners including Helsinki Region Transport (HSL). HapLab also participated in industry conferences and developed collaboration with the Paris eReading Museum. The main effort in autumn went into completing doctoral thesis by Harri Heikkila on book digitalization.*

*Since the spring of 2015, HapLab has been funded by the Media Industry Research Foundation of Finland as well as private companies. The intention is to promote ideas developed within this project with new partners in future projects. The new initiatives, grouped under the Future of Reading (FuoRE) umbrella, are listed at the end of the report. For further information contact [harri.heikkila@aalto.fi](mailto:harri.heikkila@aalto.fi)*

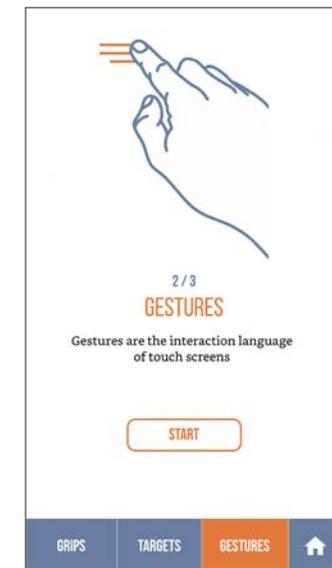
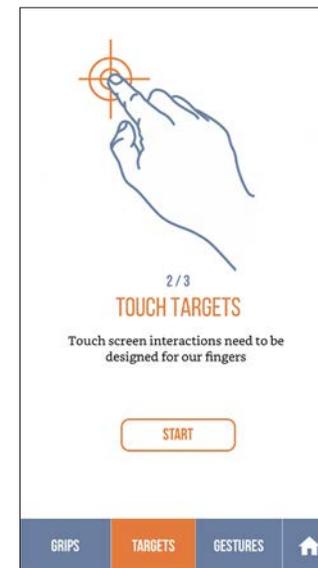


*Johannes Neumeier (left) and Antti Sihvonen of Neonto trying out the HapLab app prototype*

## HAPLAB APP

The HapLab app is designed to investigate good practice in the touch screen's native environment – the smartphone. The target group is coders, designers and software development purchasers. For the time being, the software is available only for iPhone, [in the App Store](#).

The content is based on a simplified heuristic consisting of three sub-areas: optimized touch areas, buttons and gestures. The basic development was done by Johannes Neumeier as part of the *Designing for Emerging Platforms -16* course. This built upon the work of Salla Vasenius, from last year's course. The software was designed and implemented on the [Neonto Studio](#) platform.



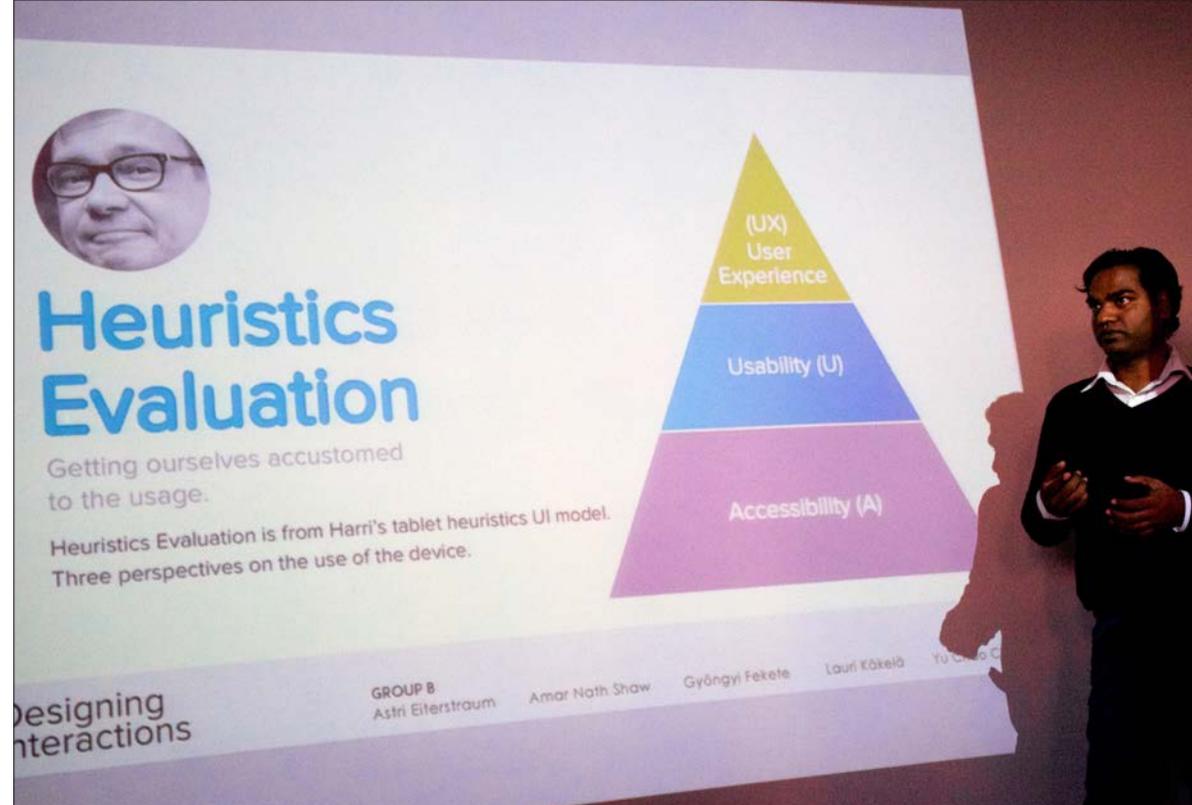
## TEACHING

Two courses were held at Aalto University. The first six-credit course was a continuation of last year's *Publishing for Emerging Platforms* courses and was aimed at visual communication students. The course ran from January to May. The target group for the course was graphic design students. There was also a new short course for industrial design students – a 5+5 day intensive course within an interactive design (IX) study programme.

Both courses considered design features, methods of assessment and usability testing for touch-screen devices. The courses moved from theory to practice. As in previous years, the practical project was based on design cases in collaboration with partner companies.

The implemented heuristic model was developed by Harri Heikkilä for the [Next Media](#) project. It is a metaheuristic update for touch-screen devices from old heuristic models, including a method for agile reporting. There was also a conscious attempt to move from a test model to a development model: not only to identify and report errors, but also to propose improvements as parallel interactive models.

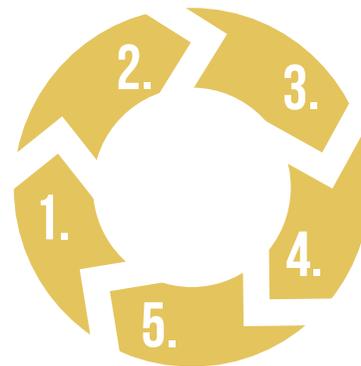
*Amar Nath presents Heikkilä's heuristic model for touch screens.*



*In addition to the long course, we also held a 5+5 day agile intensive training course.*

# HAPLAB-TRAINING 5 DAYS

BETTER INTERFACES FOR TOUCH SCREENS BY AGILE RESEARCH DRIVEN DESIGN.



- 1. DAY INTRODUCTION: DESIGNING FOR TOUCH SCREENS**  
DESIGN PATTERNS • BASIC HEURISTICS FOR TOUCH SCREENS: FOF  
REHEARSAL: GALLERY WALK WITH CLARK & WHITE
- 2. DAY FROM FINDING ERRORS TO PROPOSING SOLUTIONS: HAPLAB-MODEL**  
REHEARSAL: ASSESSING YOUR FAVORITE APP
- 3. DAY REAL WORD REHEARSAL: R&D CHIEF XX FROM XX PRESENTS XX-APP**  
WE ASSESS THE APP AND PRESENT REPORT IN GROUPS
- 4. DAY RAPID PROTOTYPING WITH FLINTOS**  
BUILD A BETTER INTERFACE FOR XX BASED ON FINDINGS
- 5. DAY CORRIDOR TESTING OF PROTOTYPE AND RESULTS TURNED TO PROPOSITIONS**  
BUILD A BETTER INTERFACE FOR XX BASED ON FINDINGS CONTINUES. PRESENTATIONS

In the long (MA) course in the spring, students also practised creating e-books (EPUB) and tested a new Italian multichannel publishing platform, *Pubcoder*. They also learnt how ideas for improvement arising from research results can be applied to interactive models. The course was enriched by several guest lecturers including *Valtteri Halla* of *Leia Media*, *Lotta Holm* of *KSF media* and *Janne Käki* of the *Awesome Factory*.

The practical project was to create a new user interface for *Adfore's Tässä.fi* mobile app. For their final project, students developed far-reaching functional models from their own software ideas for tablets and smartphones.

The autumn short course was an intensive two-week training for MA students at Aalto University Department of Design. The structure was the same as in the long course, but the content was slimmed down. The autumn course partner was HSL (Helsinki Region Transport). The course had access to HSL's new touch-screen [ticket reader](#). The students assessed it and made suggestions for improvements, which were cross-evaluated and tested in target groups. The ideas created in the process were passed on to HSL as interactive mock-ups. HSL is now considering how to use these ideas in future versions of the device.

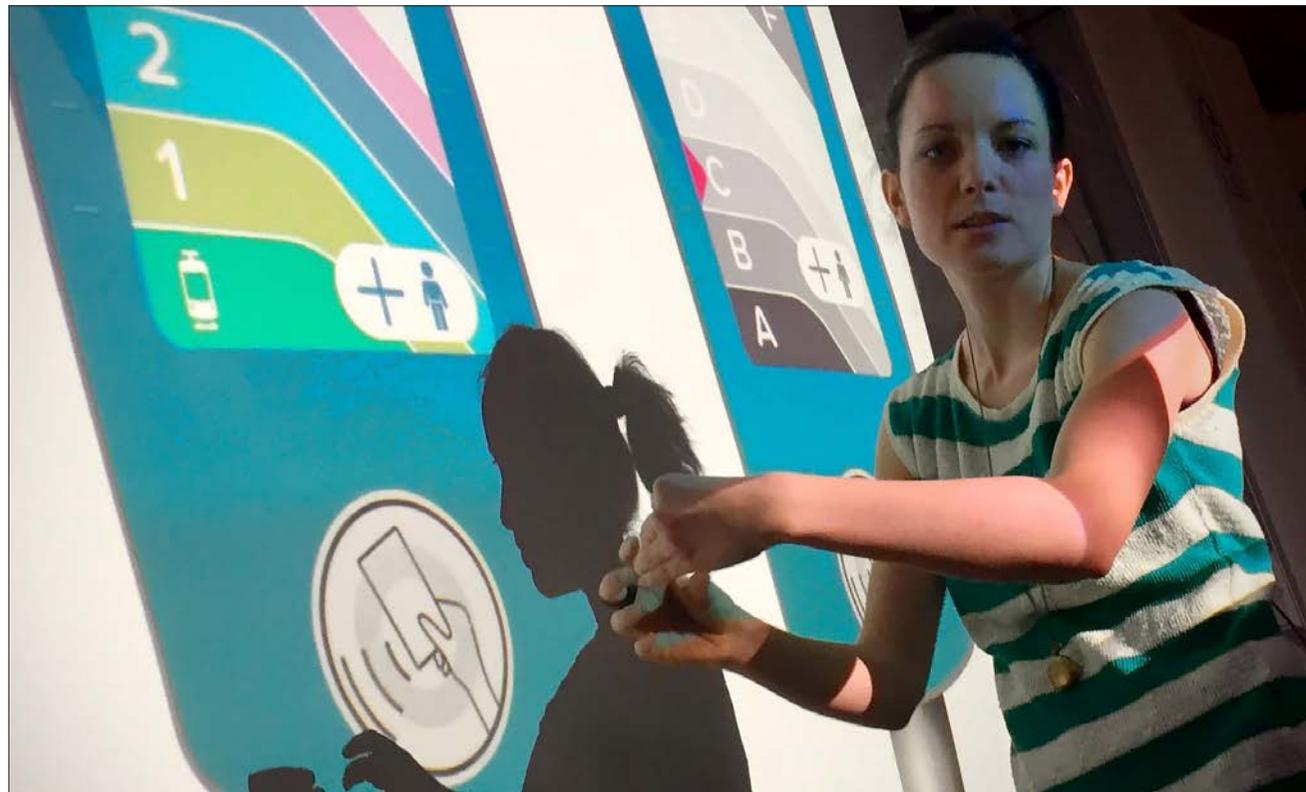
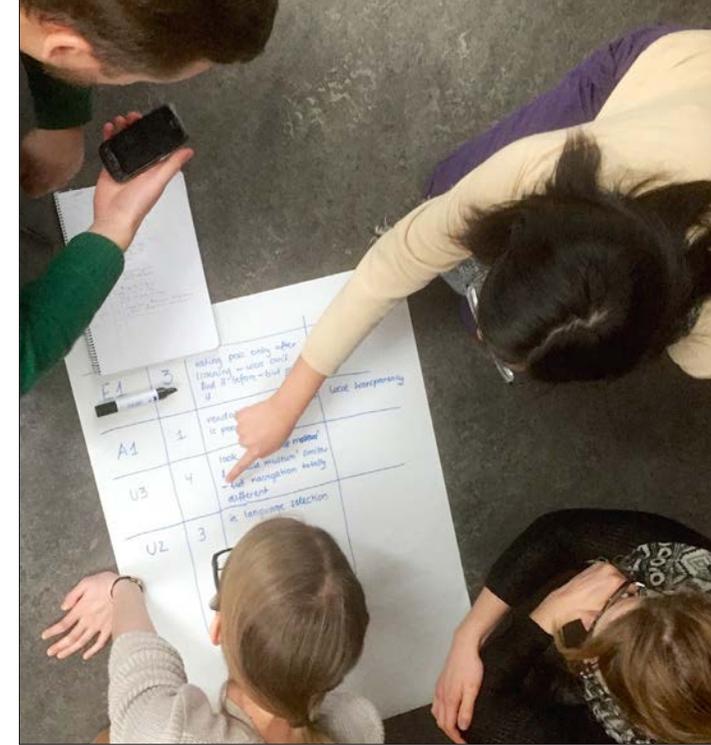
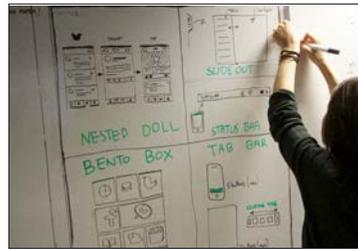


*Students evaluating the mobile version of the Finnish Guido programme, spring 2015 (right).*

*Kate Foley presenting the course literature using the gallery walk method, spring 2016 (left).*

*Su Choi completing team work on a touch screen UI design pattern, autumn 2016 (left).*

*Fekete Gyöngyi presenting the new sector user interface for HSL's ticket reader, autumn 2016 (bottom).*





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## CONFERENCES AND WORKSHOP

### Paris Digital Textbook Workshop

French e-textbook platforms were presented at the Digital Textbook Workshop. There was a general discussion about digitalizing educational materials. The audience consisted mainly of teachers, whose concerns were quite similar to those in Finland. The cost of e-books continued to come up in the questions. If teachers have a limited book budget and e-books do not replace printed ones, but simply provide additional material, how are they justified and what measurable benefit do they have compared to traditional teaching methods?

The workshop was held at the city of Paris start-up incubator, *Labo d'édition*. The Paris eReading museum is based in the same space. The project has attracted a lot of attention in the international media, though it is still in its early stage. Kindle and Bookeen will be on board supporting the project. There were discussions on how to share data and marketing to support a potential project like this in Finland.

### Wan-Ifra, Vienna (10–12 OCTOBER 2016)

The traditional newspaper industry [conference](#) in Vienna is past its prime: while the event workshops are rewarding, visitor and exhibitor numbers are clearly falling.

The digital media world workshop raised two main issues: how to secure finances for the newspaper industry in a situation in which ad blocking has increased rapidly, and what strategy works for Facebook and other proprietary platforms. More and more news content is read via Face-



Roxane Bitard at the Petit musée de la lecture numérique, Paris, which is under construction (above).

The potential of electronic textbooks was discussed in Paris in September 2016 at Labo de l'édition (top right)

Pedro Matos, (Polytechnic Institute of Portalegre, Portugal) presented an interesting pilot for a newspaper in magazine size format (right).

The editor-in-chief of the Turkish *Hürriyet*, *Çağlar Göğüş*: "Re-designing our mobile app tripled our reader numbers". The new app interface is very image-based (left).



book. The consensus at the workshop seemed to be that it is quite unrealistic to negotiate with Facebook about direct payment agreement. The industry has to be able to utilize the platform as it is. Here is one example of a successful strategy. Turkey's Hürriyet does not share news content on Facebook at all, but only specially-created video content that focuses on its columnists as personalities. Each columnist has to create the complementary video content for their own column. The videos are doing well in Facebook's algorithm and bring readers to the newspaper.

WAN-IFRA's Ben Shawn summarised that advertising has financed the spread of the internet, but at the same time contributed to the decline of user experience. This has led to the mainstreaming of ad-blocking software, which has been particularly high among young men (up to forty percent). Shawn proposes a goal-oriented strategy for communicating with readers. If ad-blocking software is detected, the reader should be given a deadline to either switch to a paid subscription or remove the ad block software. And payment should be easy. Shawn cites Apple's strategy: Music has digitalized but piracy has decreased, because Apple has made paying so easy that piracy has become too much of an effort.

It is becoming clear that more work needs to go into the user experience of the advertising. The readers find advertising annoying specially if it is not targeted to them; there has to be better ways to create less obtrusiveness in future, but still ensure the visibility of an advertisement. Another problem related to this – from advertisers' point of view – is when ads appear in the wrong place, and too many of them are not visible on the page. One

models' solution to ensure advertising is visible is to offer premium placement options.

### Frankfurt Book Fair

At the Frankfurt book fair many e-book platforms were presented. These five were among the most interesting:

[Ridero](#) is a new, easy-to-use template-based ePUB production software. The e-books presented were typographically and visually well considered. The freemium model allows customers to experiment.

[Typefy](#) is an XML publishing system. The pitch is that it generates all the needed formats, from PDF and HTML5 to ePUB, within a few moments. The short on-site demo revealed that the system uses InDesign to generate the XML. Word, for example, is linked to it with a proprietary plug-in. This is one solution to provide visual quality in multichannel publishing.

[OPIQ](#) is an example of a K-12 learning environment which is integrated with the textbook. Antti Rammo presented its potential for assigning and monitoring student tasks. OPIQ seems to be an interesting platform, but it is very reliant on the learning environment so it may be difficult to integrate into existing systems.

[Jouve](#) is a French ePUB-based social reading environment which is also a substantial textbook platform.

[SONY DADC-DRM](#) is about to present a serious challenge to the market leader, Adobe ADEPT. It has new agreements with partners like the popular e-reading programme, Bluefire Reader.



Electronic textbooks were heavily featured in Frankfurt. The platforms on display, however, were mostly multimedia solutions or entire learning environments (top).

The technical development of e-paper has slowed down. The Polish Inkbook is an affordable new e-paper device, using the same Carta screen as the German Tolino, below. Tolino's most important innovation was an e-paper device that is water resistant (bottom).

Anna Bessmertnaja presented Ridero, an ePUB platform that works online (bottom left).



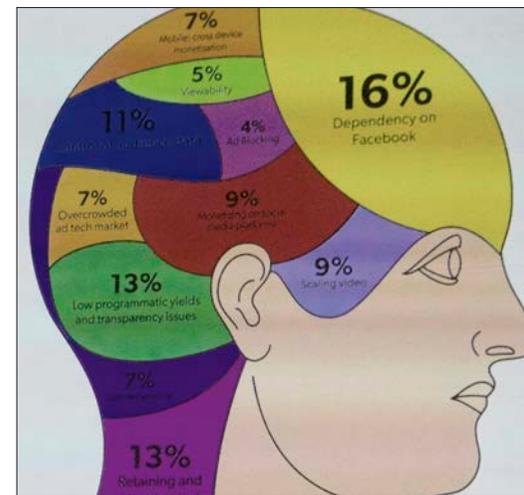
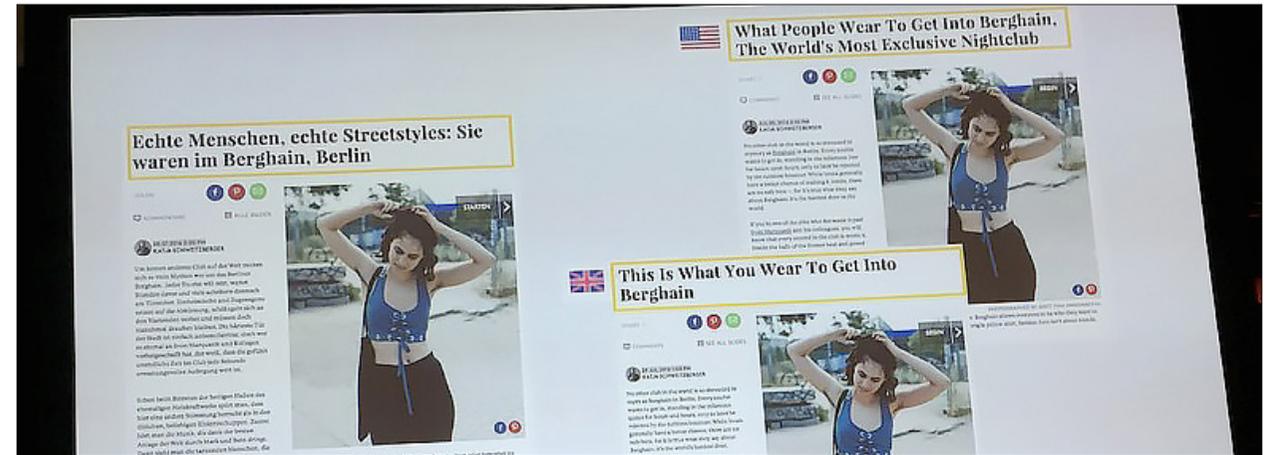
**Digiday Publishing Summit Europe, Nice (26–28 October 2016)**

The Digiday Summit is aimed at media managers, so it focuses heavily on networking. Options include a different number of bilateral meetings, depending on the price paid. These are fairly expensive – clearly contacts are being sold. Digiday’s editor-in-chief, *Brian Morrison*, spoke about proprietary platforms in his opening remarks. How can publishers be profitable in the future if communication increasingly moves to these platforms – such as Facebook? Where is the publisher revenue model for the future? “The whole industry is based on standardization and now we are seeing development in the opposite direction.” Another point was the rise of mobile. Desktop screens are in decline and everyone is moving to mobile. The bright spot on the horizon was seen in readers’ growing interest in video. Points to consider include better practices, e.g. enabling user control over linear video.

These were the most interesting presentations:

1. *Swedish ad-block project*
2. *Politico’s localization*
3. *Header bidding*

**Blocking the ad blockers** *Daniel Weilar* (Nyheter 24, IAB, Interactive Advertising Bureau, Sweden) [explained](#) a project involving 20 Swedish media companies to find a solution to the rapid growth of internet advertising blockers. Readers can use ad blocking to stop advertising showing up in a browser or in media programs. When the number of users of blocker programs rose by half within a few years, the media sector



in Sweden responded by working together: Weilar stressed that the prerequisite for the success of such a project is media collaboration. Some readers of newspapers involved in the project just switched to media platforms where ad blocking still worked as before. Users of ad blockers should not be directly denied access to the content, but firmly reminded of the importance of financing news reporting and offered the option either



Above: *Politico’s localization: US, UK and German editions of the same news.*

Conference participants were encouraged to get involved in many different ways. For example, participants were asked to add their ideas about the most critical problem for the field to the above flip chart. The sticky notes were used at the end of the workshop to produce the visualization on the left.



to pay for a subscription or to remove the ad blocker within a time limit. The results have been good, even excellent, and ad blocking has dropped significantly. A similar project has been running in [England](#).

Weilar's user-oriented focus was interesting: the project also aimed at creating common rules for advertising. The hope is to reduce the number of ads that the reader finds disruptive. So the intention is to create an environment where reading is pleasant, despite the ads. Cooperation, developing a user-friendly advertising environment and communication with the reader appear to work well.

**Politico** is a successful multi-national news service specializing in politics. Localization policies assume that a country-specific approach to news is always better: Stories are not just translated from English into German, for example, but effort is made to adapt at least the title and lead paragraph to attract interest in a particular country.

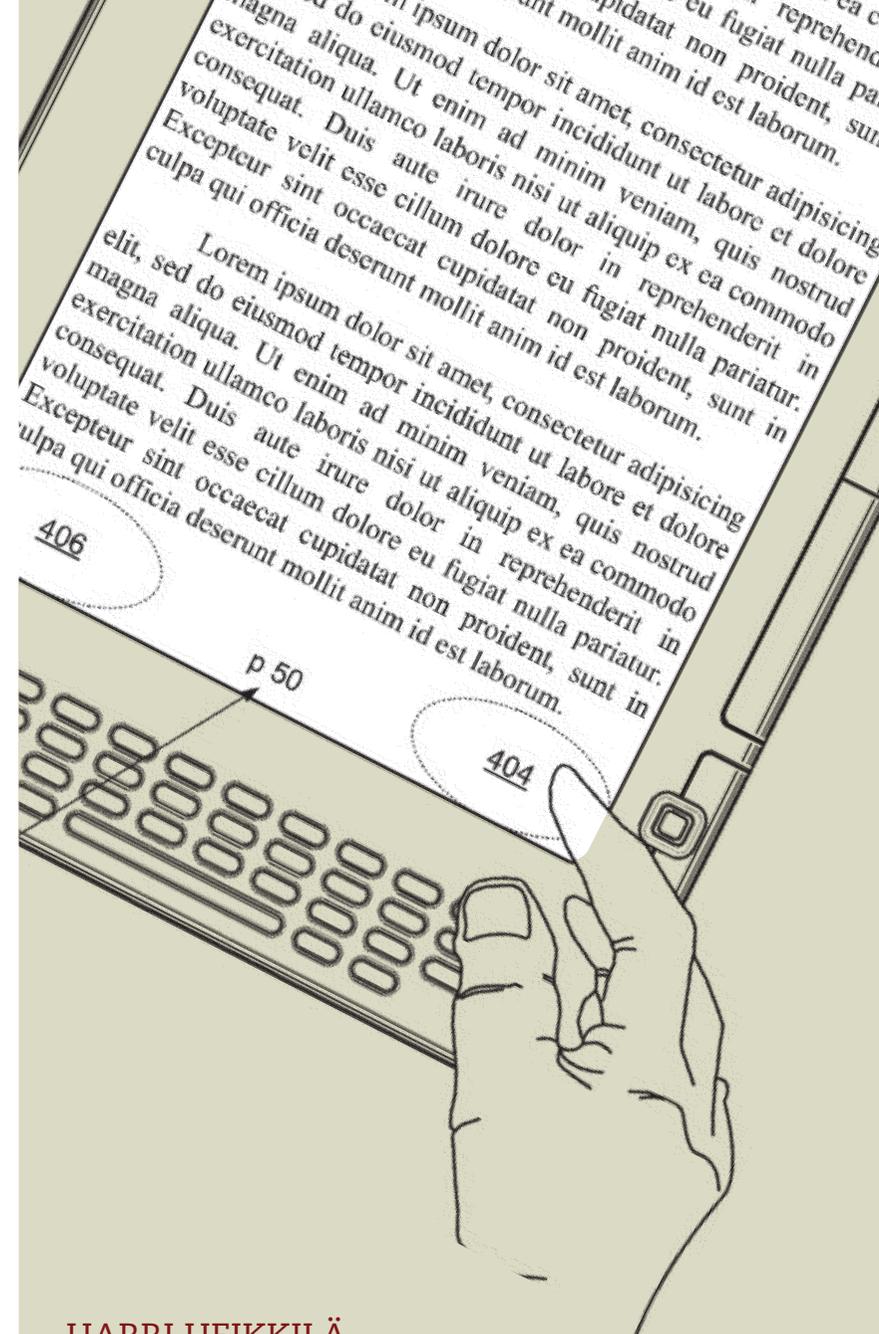
**Header bidding** or [ad space auction](#) is a programming technique which the publisher can use to offer ad space to more than one advertiser at the same time. The idea is that when multiple offers are made simultaneously, the price rises. Header bidding has achieved up to forty percent sales growth, although sceptics doubt whether this is a permanent gain. Perhaps it is only a matter of time until the advertisers develop programming technology to optimize buying space in a similar way. In any case, revenues are now up and a Finnish game developer, Juuso Aho, showed in his presentation how header bidding has worked particularly well in a game environment, where advertising space is difficult to sell.

## DOCTORAL THESIS ON THE DIFFICULTIES OF MAINSTREAMING E-BOOKS

The doctoral thesis, to be defended in 2017, examines the problems associated with mainstreaming book digitalization and e-books, and finds solutions for them. This is investigated by defining the micro and macro level forces which drive the acceptance and adaptation of mainstream innovation. On the macro level, the development of the book is driven by the need to use information effectively, but the transition to electronic format also requires that micro-level needs are met.

The e-book has undergone a number of major changes during its long existence, and mainstreaming has been attempted in a variety of ways. The research opens the "black box" of the e-book and examines how it came to be constructed and structured as it is today. The research includes the first large-scale Finnish-language review of e-book research and an analysis of the development of e-books. In addition, the researcher interviewed a number of experts who have been involved in various activities related to digitalization.

The study concludes that mainstreaming has only partly succeeded, and largely in local contexts. Although the technology has advanced and enabled mobility and other benefits, the debate about what kind of e-book model the early majority could accept is still ongoing. There is still an unresolved conflict between the book and the web, and the technology is not stabilized. The problem is also that the necessary new organizations and services have only been developed within closed ecosystems.



HARRI HEIKKILÄ

# This is not a book

ON CHALLENGES OF MAINSTREAMING OF EBOOKS



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## FUORE – FUTURE OF READING

Fuore is an umbrella project which includes a number of HapLab initiatives. Here are just a few:

- *eReading lab*

The history and future of e-reading, portrayed in a curated hands-on exhibition. One can try all generations of devices from 1991–2016.

- *BOK*

From Harri Heikkilä's doctoral thesis, ideas for new e-book user interface solutions and ecosystem commercialization.

- *eTextbook today*

Electronic textbook pilot in which the same textbook content is tested in different platforms.

- *Deep reading*

Research project on user interface elements to support long and uninterrupted electronic reading.

- *Social reading*

What sense of community do e-books create? How is this done and how might it be done?

- *Nuoska*

Collaborative project on mapping, marketing and developing new Finnish publishing platforms for mobile media devices.

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