IDENTIFYING REQUIREMENTS FOR
ENHANCED PUBLICATIONS

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ABSTRACT

Presented in this paper are the requirements for an Enhanced Publication (EP). Results are based on analyses of comments on the internet about Cell's article of the future, other EPs and the usability experience of the authors. Also a small exploratory study was done with other areas of expertise. This revealed that the requirements may strongly vary between areas of expertise, but more thorough research is needed to definitively confirm this.

KEYWORDS: *enhanced publications, rich internet publications, document design, requirements, usability*

1.   INTRODUCTION

Researchers share their results mainly through posters, monographs, theses, articles in journals and presentations at conferences [SURFshare 2010]. With the advance of internet, interesting new opportunities arise for publishing articles. They no longer need to be restricted to paper with static text and images. Enhancements with databases, data sets, interactivity and multimedia now technically are possibilities. Articles that are published online and contain more than just text and static images are generally considered Enhanced Publications (EP) or Rich Internet Publications (RIP).

EPs are scientific publications that have been optimized for the internet. RIPs share features of information integration, visualization and exploration and have an appearance that differs too much from the traditional paper to just call them 'enhanced'. Breure [2010] make a distinction in the degree of enhancement of the articles. They divide the spectrum of EPs into the categories low, middle and high enhancement. Publications with few enhancements fall within the low end while RIPs fall within the high end.

EPs offer several improvements over regular papers and PDF-documents. The article can be structured in multiple webpages and images can be viewed and zoomed in on. The possibilities for referring to other sources increase, research data can be added to the publication and EPs offer the possibility to comment on papers in a Web 2.0 style.

Enhanced Publications are still in their infancy. The possibilities are still not well-known to scientists and the creation of an EP costs a lot of time. Several publishers are exploring them, e.g. Elsevier with its subsidiary Cell. These experiments all use different approaches and techniques. Therefore many of these publication methods are suitable for a particular research area.

Because, currently, only very few people use EPs, it is still unclear what the future holds. The research question addressed in this paper is what publications in the future will look like and if there will be a standard for EPs. In this research we will search for a publication method that can be used in many research areas.

Thoma [2006] define a list of ten attributes that need to be considered when creating an EP. These attributes are especially desirable for interactive publications and are a subset of a larger collection of attributes of which many are obvious for publications.

1. Appearance. The appearance of an article should be similar to that of a traditional article.

2. Page Transitions. Traditional use of keyboard and mouse should be available.

3. In-page navigation. Use of keyboard keys, mouse and additional use of control keys.

4. Image browsing. Commonly used formats can be used and it should be able to encode some degree of interaction.

5. Navigating to an embedded/linked media object. The ability to activate embedded media objects.

6. Native support for interactivity. The document should provide support for adding tabular data, images and other multimedia.

7. Execute Code. The document should be able to support the inclusion of software programs.

8. Transmission. Data-intensive multimedia-rich documents should be supported by user-controlled transmission.

9. Embedding and linking of multimedia/interactive objects. The document should support linking to and embedding of interactive data.

10. Document integrity. The document should be self-contained.

Many of these attributes can already be found in EPs and can easily be created with tools like Microsoft Office or the Adobe Acrobat Frameworks. Thoma [2006] claims that in order to understand the pros and cons of an interactive publication, research has to be done by evaluating significant players in the field, including publishers, authors and readers.

As stated, EPs are a new field with many unknowns. There are, for example, no general requirements that a good EP should adhere to. In order to alleviate this problem, we will present a set of requirements in this paper. Breure [2010] conceive the new genre of EP not as a single monolithic model, but as a set of functionalities that can be clustered in all sorts of variants to form a publication.

This research focuses on the functionalities that are needed to build a good, readable EP. The main focus is to present guidelines for creating an enhanced publication by exploring the current state of the art EPs. The main research question therefore is 'Which functionalities does a good enhanced paper require?'

To answer this question we started with analyzing the discussion around Cell's article of the future. The ideas that were expressed were gathered and other EPs were analyzed. Out of this information we identified requirements for EPs. These requirements were used to build a prototype, that was commented by usability experts and potential readers.

2. METHOD

In order to identify the requirements for a good EP, we've analyzed the discussions on the internet concerning Cell's first EP. See appendix A for the list of used sites. We gathered all remarks and removed duplicates. All remarks were analyzed and grouped into five categories (see

Table 1):

- Text: Readability of the text
- References: Concerns about references to and from other articles
- User: Requirements on the users end and features that use user input
- Layout: Matters concerning the layout, mainly how it can be improved
- Quality: How can the quality of an article be guaranteed?

Next we studied Cell's publication ourselves and added both points of improvements and good features that have not been mentioned before.

Table 1: Comments about the Cell Article of the Future grouped by class

Layout	User	Quality	Reference	Text
The author interview stops playing if you go to another tab	Comments for both the whole article as well as the parts	Publication history and comments from reviewers should be shown	Relation to other papers should be clear and links present	Abstracts could be more accessible
Figures move around when you scroll	Javascript is required	Any user can access and enter information	The hyperlinking is anemic	Narrow column of text in the results
Figures aren't integrated with the text	Readers must be familiar with the internet	There is a great concern of plagiarism	No semantic mark up	
Having to zoom in on figures	enable web participants to leave comments, observations, or simply citations.	a lack of norms and management patterns in online publications.		
A patent is pending on the layout, which can stop you from publishing	Comments can turn into flame wars, even with screening			
The format resembles digital encyclopedias from around 1997	"Drilling down" might be an unfamiliar term for non-IT people			
Tabbed table of contents leaves little room for expansion				

These remarks were converted to a rudimentary set of requirements. To evaluate them, we used them to analyze other environments of EPs (Perseus Digital Library, Oxford University Press, Cultural Landscape Explorer and Alfalab).The EPs we used fall within the middle part of the spectrum by Breure [2010]. Based on our findings we refined our requirements, and then prioritized them using the MoSCoW method [Clegg 1994].

3. REQUIREMENTS

Below you will find the prioritized requirements classified in the categories that were identified above. The order in which they are presented within the subsection has no significance.

In some requirements we will be using the term "main body of the text" by which we mean the text including citations and references to figures, tables or equations but not those figures, tables or equations themselves or their related captions.

3.1. Text

Enhanced publications must have:

1. a regular PDF must be available for download, ready for printing.

   Although an EP offers many benefits, people are still able to read quicker and more comfortably from paper than from a display. [Dillon 1988]

2. the ability to annotate the article.

   O'Hara [1997] found that people often prefer paper, because this allows them to annotate the article. Adding this functionality eliminates a reason to stick to paper.

3. an explanation for jargon that is used in the article.

   Often jargon is used in papers. Readers might not be familiar with it, and hence an explanation should be provided when the reader hovers over or clicks on the term. Readers who aren't familiar with the jargon will appreciate the availability of an explanation, while those who are familiar with it won't receive it because they won't request it. So having it enabled benefits the unknowing, while not having a detrimental effect for the knowing.

4. information about publication date, date received, date accepted, authors and publisher.

   Adding this information to the digital version of an article allows the readers to see the same information that is available in the printed version.

5. tables presented on the website, rather than just as loose files.

   If tables are relevant to the article, they should also be presented together with the article rather than just as a separate file. If they aren't included in the article, the reader is more likely to lose his overview.

6. more information than is available in a paper version.

   In the printed version of a journal space is limited for an article due to the high costs involved. [Morrison 2005] Since storage costs are ever declining [("Cost of Hard Drive Space," 2010)] and broadband internet penetration is on the rise [CBS 2010; Cardona 2009], though not everywhere [Chinn 2010], adding extra information to the digital version of a publication can be done at very low costs while remaining accessible.

An EP should have:

7. a search function.

   If a section is hidden from view the search function of a browser doesn't work. A search engine should be provided to counteract this.

An EP could have:

8. an audio and/or video summary by the authors.

   Adding this allows the authors to emphasize the parts they deem important. The benefit to the reader is that they can consume most of the important information quicker than by reading the article.

3.2. References

An EP must have:

9. an overview of which papers cite it.

   This gives an idea of how influential the article is.

10. citations which are clickable and give a popup with more information.

    With a small popup appearing near the clicked citation, the reader is less likely to lose their place in the text. The popup must contain a link to the article being cited. Giving at least one direct link to the cited article allows the reader easy access to that article. Links going dead in time should be prevented by linking to the journal that published rather than a personal webpage.

11. a reference list that can be sorted and filtered using different keys.

Giving the reader the opportunity to sort the references according to a key they prefer, e.g. year of publication or surname of the first author, allows them to more easily find what they are looking for.

12. the possibility to export a citation to most popular reference managers.

To cite articles, reference managers are often used. To simplify importing the data, an EP must have the possibility to export references for most popular reference managers.

An EP could have:

13. a histogram displaying the frequency per year of cited papers.

A histogram can give a clear overview of how recent the work is that the article has been based on. For some fields of research this is relevant information.

3.3. User

An EP must have:

14. the possibility to place comments.

Discussion, the bread and butter of science, currently takes place mainly via journals and conferences, but not so much via the internet. Although comments may not allow for the same depth of discussion as a counter article would, they can be very useful to get people involved and start a discussion. In order to keep the discussion lively, these should be added quickly, i.e. it shouldn't take several business days.

3.4. Layout

An EP must have:

15. content other than the main body of the text presented separately from it.

Other content like figures and tables often is relevant for a larger part of the article than fits on the screen with it. Displaying them independently of the physical location of the references to them minimizes the amount scrolling required by the user. This should make it easier to stay focused and understand the information being conveyed. We suggest placing the text and other content side by side in different columns. This is preferable over two windows, as this requires less effort on the reader's part to adapt them to suit their needs.

16. the ability to easily adjust the size of both columns at once, whilst always using the entire width of the window.

When two columns are indeed implemented, it also must be easy for the reader to grant more size to either of the columns. Doing so allows the reader to focus more easily on either the text or figures/tables, depending on what they are doing.

17. the ability to zoom in/out on content in the second column.

Sometimes the content in the second column might not fit breadth wise. In this case it's preferential to allow the user to zoom into or out of the content, rather than to use horizontal scrolling, as this reduces readability [Cappel 2007] and lowers the usability. [Richards 2004; Becker 2001; Hanson 2004]

18. tabs and subtabs for navigating the article.

A clear and structured navigation is required to find your way through the article. To make sure that there won't be too many tabs, subtabs can be used.

19. expandable/collapsible (sub)section headings.

In order to maintain a clear overview of the article layout, parts of the article should be able to be hidden while others remain visible. The natural unit of measure in this would be sections and sub-sections, as these mark different subjects.

An EP should have:

20. the ability to display captions together with their related content.

    Content that has captions should always be displayed together with it, so that its context is always clear.

21. the possibility to expand/collapse all headings at once.

    To avoid excessive scrolling, the reader must be able to collapse or expand all sections at once.

22. an icon that indicates whether a section is expanded or collapsed.

    Graphically supporting the interface element that allows the collapsing and expanding of a section makes it easier for the reader to understand what will happen once they click it.

3.5. Quality

An EP must Have:

23. short loading times.

    People are willing to wait 2 seconds for a website to load [Nah 2004]. So, content must be loaded in short time.

An EP should Have:

24. a feedback mechanism to inform the user that the article is loading, if the loading times are long.

    Although loading times should be short, they may not be instantaneous due to either the size of the article or the speed of the reader's internet connection.

25. the maximum amount of horizontal space and not be hindered by advertisements.

    As noted earlier, horizontal scrolling should be avoided at all cost. That is why an EP should have the total width of the window available, unobstructed by other content like advertisements.

26. all data hosted by the publisher.

    This way the integrity of all links is maintained.

27. semantic markup.

    Semantic markup allows related articles and resources to automatically be linked together. This way, readers might discover other useful publications.

4. THE DEMO

In order to test our requirements we have built a demo based on them. It can be viewed at http://www.charleygielkens.nl/mdic/. For the content we used an article we have written in a previous course.

Due to restrictions in time we weren't able to fully implement all requirements. We choose not to implement the requirements that would cost a lot of time and server side coding to implement. This means the following requirements: 2, 7, 8, 11, 12, 14, and 27.

An often heard critique on the Cell article is their reliance on Javascript [Breure 2010], which makes it less accessible than a website that relies solely on HTML. Although this is a valid argument, we have found that currently only between 3 and 6% of the users don't have Javascript available [("Browser Statistics," n d; "EU and US JavaScript Disabled Index numbers + Web Analytics data collection impact | Visual Revenue," 2007)] and this number is expected to decline. Similar features could possibly be achieved by using either HTML (i)frames or server side coding, but they would create different and greater usability problems, make some requirements impossible to achieve and they would make it a lot harder to create an enhanced publication. Therefore, we chose to use Javascript for our demo.

We have also looked into HTML 5 and Flash for creating our demo, but these were discarded for compatibility reasons. Flash isn't available on certain systems, while Javascript is available for all modern

systems capable of running a browser with a graphical interface. Although HTML 5 has many promising features, most relevant ones can also be created in HTML 4. Also not all HTML 5 features are supported the same way or at all by every browser.

When viewed locally and on our test server we found that loading was almost instantaneous, so we have managed to keep loading times low. The bibliography and jargon explanations are loaded on request from separate files using Javascript, so the first time a reader clicks on a citation and term a short time is needed to load the documents. After that they are available in the cache of the browser, making access instantaneous again.

As long as the information hasn't been loaded, a moving graphic (Figure 1) is shown to indicate that loading is taking place.

Figure 1: loading graphic.

Although we have no extra content to add, however we have created the possibility to do this. We think that best way to do this, is adding an extra subsection at the relevant place in the article which is collapsed by default. The same goes for acknowledgements. Although not implemented, it can easily be added as an extra section or tab.

4.1. Design decisions

4.1.1. Layout
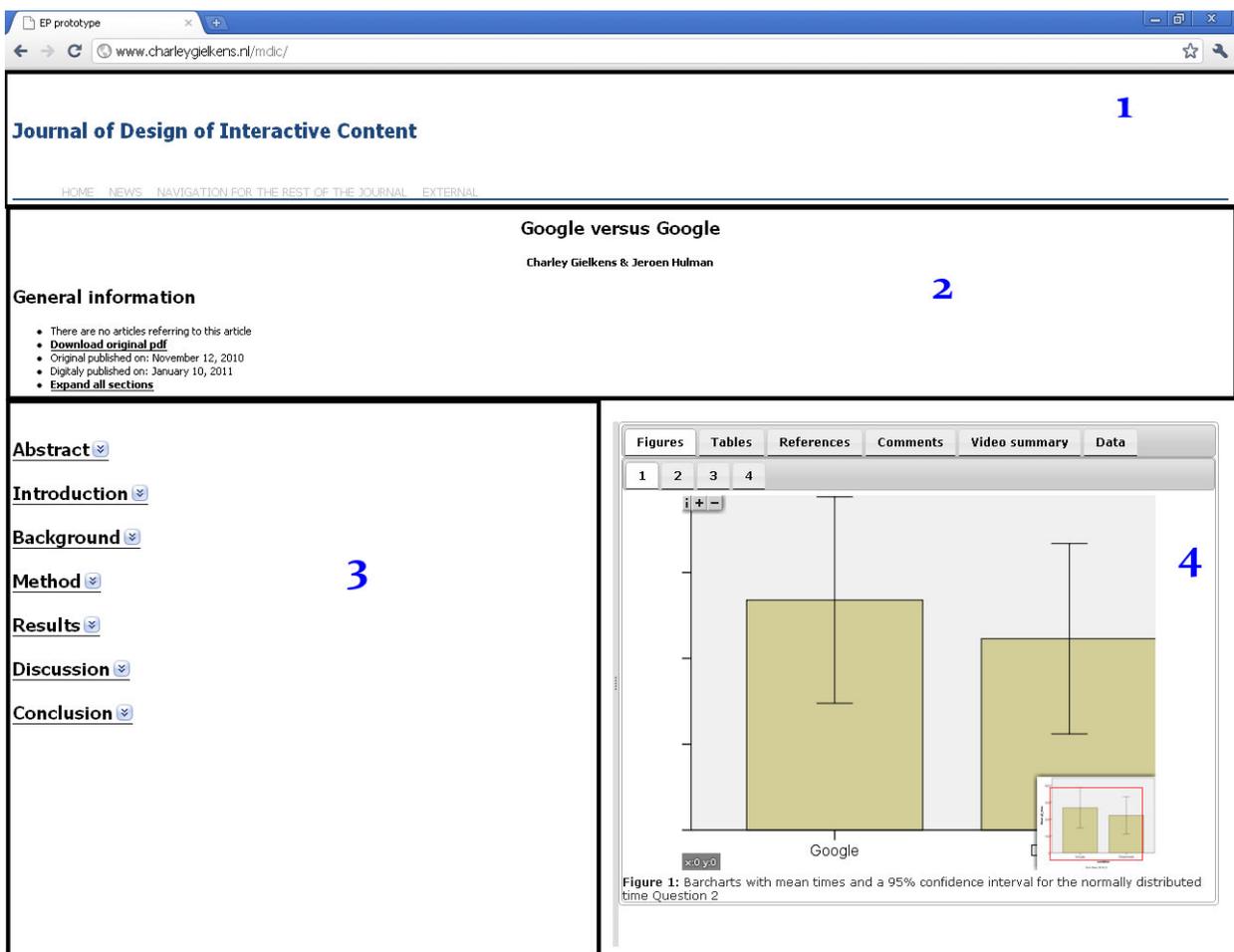
Figure 2: Screenshot of our demo with added black lines to mark different zones

Figure 2 shows a screenshot of our demo. The thick black lines have been added to mark the different zones in our publication, so that we may explain them here more easily.

Navigation within the article can be managed in different ways with tabs and sub tabs. Cell has done this as can be seen in Figure 3. We have chosen to always show the general information, rather than put it in a separate tab, because this information can come in handy and it saves the reader reloading of pages.

Figure 3: Cell's implementation of tabs and sub tabs

4.1.2. Zone 1

Zone 1 contains the header and navigation for the website of the journal in which the article is published. This is only a demo of the requirements for an EP, so these controls are not fully functional. Should this be a fully functional website, only zone 1 would remain the same for different publications.

4.1.3. Zone 2

In zone 2 all the meta-information about the paper is presented, like title, authors, other papers citing it etc. We have placed a link to expand or collapse all sections here, because this is the most convenient place to always keep it onscreen. Having to scroll all the way to the top of the page to collapse all sections, would make little sense, since by collapsing you want to avoid excessive scrolling.

This would also be a good place to facilitate the exportation of a citation. Although we haven't actually implemented this, we think a good way to do this would be giving the user a link to click. Once clicked, a popup appears containing logos of the most popular reference managers. Logos are preferred over textual representations as they take up less space and are recognized more easily [Santa 1977].

4.1.4. Zone 3

The main text of the article is placed in zone 3. If the text doesn't fit vertically, a vertical scrollbar will appear just between the border added in the screenshot and the grey line marking the actual border. This grey line can be dragged left or right to allow either section to take up more room on the screen in favor of the other. This way, readers can easily give more room to the part of the article they want to focus on now.

4.1.5. Zone 4

Finally in zone 4, all other information is displayed. This section is divided with tabs and sub tabs, to allow the user to keep a better overview of available information here.

Should it happen that there are more tabs than there is horizontal space, they will automatically flow to a new line. This technically means that you can use an unlimited number of tabs, but we strongly suggest keeping the number limited to a maximum of two rows based on the display resolution of the average visitor.

This differs from Cell's approach, which offers the possibility to scroll through a horizontal list of tabs if there isn't enough room. We have done this, because it's easier for people to recognize a tab than to recall its position [Anderson 2005; Sharp 2007].

If an image doesn't fit within the allocated space, an interface for zooming in and out of the image appears which also allows the reader to pan across the image. Although not implemented, this should also be done for tables. Currently if a table doesn't fit horizontally, a horizontal scrollbar will appear. This however should be avoided to ensure optimal usability.

In order to allow easy reuse of data, tables and figures we've added the tab "data" on which all tables can be downloaded as Microsoft Excel spreadsheets, graphics as high resolution images and the original data used. Although we haven't done this, it would also be a good idea to add a link to the individual spreadsheets underneath their HTML counterparts.

4.1.6. General remarks

We would like to stress that the amount of sections, subsections, tabs, sub tabs and their labels are created to suit our article. A different paper would have yielded different section names for sure and maybe different tabs in zone 4. Their names and amount should be fully customizable by the author, so that if they have no need for a section named "Results" but rather a section named "The genus Ananas" this is possible.

As can be seen in Figure 2 we haven't reserved space for advertisements in our design. Although journals do need to generate income through this, we feel that screen width is too valuable for the reader to be wasted on content that isn't of primary interest. Furthermore, advertisements are often rated negatively. When they are in the wrong place, they can even deter users from returning to the website at all. [McCoy 2007] Lastly, as the width is hard limited, as horizontal scrolling should be avoided, we suggest that advertisement should be placed below the article, i.e. below zones 3 and 4. An alternative would be to place it between zones 1 and 2, although this is slightly more intrusive than the previous location as it would force the user to scroll past them. Although between zones 2 and 3/4 is also possible, this is in our opinion too intrusive, as it will break the article into two pieces and separate important information and interface elements from the main article. What should be avoided at all cost though are pop-ups with advertisements, as these distract the user from their task at hand. [McCoy 2007]

4.1.7. Interaction

All currently possible interaction with our demo happens by clicking on an item. In order to convey to the reader that interaction is possible with a certain piece of the article, we have given these pieces a different style from the regular text. When a reader hovers over the item with their cursor, its background also changes color from white to grey.

Each type of interaction has its own style, so that it's clear that a different reaction can be expected from each. Jargon is light blue with a dashed line (Figure 4), citations red with a dotted line (Figure 5), regular links are bold with a solid line (Figure 6) and (sub)section titles are the same as a regular link, but with an extra icon indicating if the corresponding section is collapsed or expanded (Figure 7).
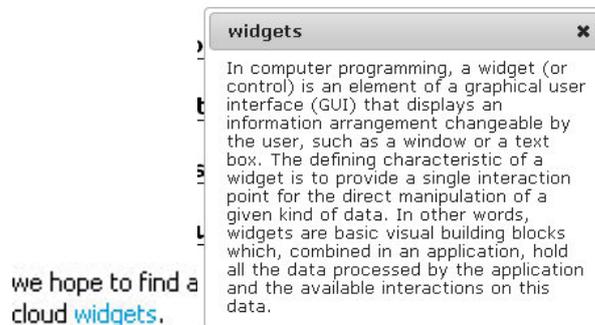

Figure 4: Left: Jargon link. Right: Popup explaining the clicked term

We have chosen to have the jargon functionality always on, rather than give the reader the option to switch this on or off. This way a greater consistency within and between articles is guaranteed, limiting the chances of the reader getting lost [Theng 2010; Abiteboul 1999] as lost or confused readers are less likely to find what they're looking for and return to the journal [Ahuja 2001]
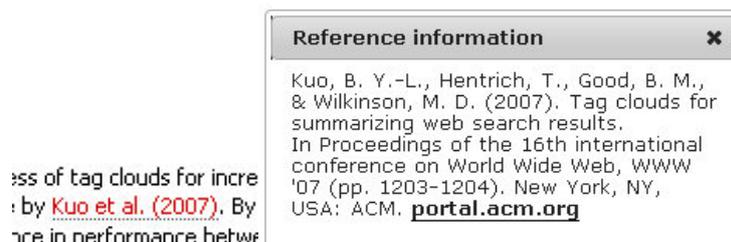

Figure 5: Left: Citation link. Right: Popup giving full information about the clicked citation, including a link to the article.

To keep the screen from getting cluttered, the jargon and citation pop-ups (right side of both Figure 4 and Figure 5) close both when the reader clicks the cross in top right hand corner and when they click anywhere outside the popup. An open pop-up will also close when Escape is pressed on the keyboard.

Figure 6: Regular hyperlink. Opens in a new window.

Figure 7: Top: Collapsed section. Bottom: Expanded section.

To convey to the use that clicking on the section title will have an effect we gave it the same style as a hyperlink. To indicate what effect will be, we added an icon that either shows upwards or downwards pointing arrow, i.e. the direction in which the text will move upon clicking the link. The same applies to subsections.

In order to establish a link between the content in zone 4 and 3, references to tables and figures in zone 3 are clickable. So clicking a link in zone 3 will make the relevant item appear in zone 4. These links have the same style as a regular hyperlink.

We have chosen not to place links in zone 4 back to zone 3. Items displayed in zone 4 can be relevant in more than one place in the article. This would necessitate supplying links with references that clearly communicate to what place in the text they point. In a PDF one could say "line 237" if line numbers are printed, but in a webpage there are no line numbers or other clear, unambiguous identifiers like it. Unfortunately there is no such thing available on a website, as the number of lines depends on the size of the user's browser window and how many section they have expanded.

We also haven't implemented any system for the digital equivalent of footnotes and endnotes. This functionality can easily be added, using a similar technique as for citations.

5. EVALUATION

To verify the requirements that were implemented in the demo and to find other problems, we presented the demo to four usability experts and three people from different areas of expertise, as literature suggests that 4-5 experts are able to identify approximately 80% of the usability problems [Virzi 1992]. The subjects were asked to comment the demo online from their own working environment.

5.1. Usability Experts

The experts were generally acquainted with the subject matter of the paper. They were asked to comment on the demo based on the five categories (Text, references, users, layout, and quality) that were the main discussion points in the Cell-discussion. Their reviews gave the following results.

5.1.1. Text

The menu was hard to read because of too little contrast with the background. The text, margins and spaces of the publication were rated as too small. The high contrast between the text and the background makes it harder to read on screen. The experts preferred to have more room for the text. The navigation through the text was hard, when someone was searching for a particular passage. An extra menu should be able to solve this.

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5.1.2. References

The ability to click on a citation and see a pop-up was praised. The experts actually wanted a way to get more information about a reference to know if it was interesting. Suggestions were adding tags or comments to a reference. The location of the full list of references wasn't that easy to find and the layout of the references should be improved.

5.1.3. Users

The experts didn't see any obstacles for users to access the publication. Users should be able to navigate through the article because of the similarities with other websites.

5.1.4. Layout

The colors of the site were described as calm and basic. The experts could understand the reasons that the figures and text were separated in two columns, but didn't find it easy to use. More room for text and smaller figures were preferred.

5.1.5. Quality

Concerns were expressed about the ability to plagiarize parts of the publication. Furthermore the experts wanted the ability to personalize the publication, by annotating the text.

5.1.6. Other

One of the experts wanted to see some interactive figures in the publication and have the ability to navigate from the figure to the part of the text, where the figure was discussed.

5.2. Other users

Papers can vary widely between disciplines in layout and types of content. The requirements we've established are based mainly on biomedical publications and might thus not fully apply to other areas. Due to time constraints we have only been able to do an exploratory study into this by asking a philosopher, psychologist and physicist if they thought a layout like the one presented might be useful in their area of expertise. Both the psychologist and philosopher reckoned that although there might be some advantages, a traditional PDF would still suffice. The physicist could see definite benefits of the enhanced publication over a regular publication.

6. SUGGESTIONS FOR THE CREATION OF EPS

The original version of the paper was written using LaTeX. This is a markup language often used in the world of physical sciences for typesetting documents. [Mittelbach 2004] There are special parsers available that can convert LaTeX to HTML. Using a customized version of this, we think it would be fairly simple to generate the HTML for our EP from standard LaTeX. EP features could be filtered automatically for traditional publications.

For areas of expertise in which LaTeX is not widely spread, an attempt could be made to achieve the same by parsing standard word processor documents. We expect that this is much more complicated and it might be easier adapting a What You See Is What You Get editor for LaTeX.

7. CONCLUSION

EPs and RIPs give more opportunities for publishing research. These new developments make it possible to add more information and interactivity. However, there currently aren't any requirements for creating good EPs.

Cell's Article of the Future is the state of the art in EPs. The discussion surrounding its development offers a lot of information about possible improvements for EPs in general. from the development of articles and the discussion it lead to, there are a lot of essential requirements that can be derived.

In this paper we presented a list of functionalities that are needed to create a good enhanced publication. Some important factors were the need for an overview of which papers cite it, the availability of a traditional PDF and links to cited articles. The balance between room for text and the room for figures and

tables seems delicate. A good EP has the ability to look at figures and tables independent of their location in the article. Although usability experts had the option to resize the frames, they still thought there should be more ways to make room for the text.

For future research we recommend looking into the ideal implementation of EPs in particular fields of research. In specific domains the current methods of publications differ very much. The development of enhanced publications might bridge the gap between those publications. Furthermore potential readers should be more involved in the development of formats for EPs to strengthen the foundation.

8. ACKNOWLEDGEMENTS

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APPENDIX A – LIST OF SITES DISCUSSING CELL'S ARTICLE OF THE FUTURE

http://blogs.nature.com/mfenner/2009/07/26/how-does-the-article-of-the-future-look-like
http://arstechnica.com/civis/viewtopic.php?f=2&t=4340
http://scienceblogs.com/drugmonkey/2009/07/the_article_of_the_future_beta.php
http://www.cell.com/abstract/S0092-8674%2809%2901439-1#Summary
http://www.the-scientist.com/community/posts/list/809.page
http://scholarlykitchen.sspnet.org/2009/07/21/the-article-of-the-future-lipstick-on-a-pig/
http://scholarship20.blogspot.com/
http://onlinejournalismblog.com/2009/07/27/elseviers-article-of-the-future-resembles-websites-of-the-past/
http://www.odassoc.com/higheredcafe/content/elsevier-cell-press-demo-%E2%80%9Carticle-future
http://friendfeed.com/science-online/cbbe2531/news-releases-elsevier-announces-article-of
http://ptsefton.com/2009/08/20/article-of-the-future-lets-talk-about-scholarly-communications.htm
http://www.stm-assoc.org/2009_10_13_MWC_STM_Report.pdf?PHPSESSID=77e2b1c40bbcdece2e8eaaeb9442f615

http://ifl.sagepub.com/content/36/1/7.full.pdf+html
http://www.emeraldinsight.com/journals.htm?issn=0741-9058&volume=27&issue=3&articleid=1871166&show=pdf&PHPSESSID=lmnf4stpbhjdibfjhbkimo5ca6

http://www.scielo.br/pdf/rbccv/v25n2/en_v25n2a03.pdf
http://www.presseanzeiger.de/meldungen/wissenschaft-forschung/412986.php
http://iospress.metapress.com/content/f4th457822023783/fulltext.pdf
http://article20.elsevier.com/contest/home.html
http://www.elseviergrandchallenge.com/
http://jcom.sissa.it/archive/07/02/Jcom0702%282008%29C01/Jcom0702%282008%29C02/Jcom0702%282008%29C02.pdf
http://blogs.plos.org/mfenner/2009/07/26/how_does_the_article_of_the_future_look_like/
http://rogerschmitz.blogspot.com/search/label/Article%20of%20the%20Future
http://beta.cell.com/index.php/2010/03/feedback-on-our-new-article-format/#more-281
http://beta.cell.com/index.php/2010/01/cell-launches-article-of-the-future-format/#comments
http://beta.cell.com/index.php/2009/07/article-of-the-future/#comments
http://beta.cell.com/index.php/2009/11/reflect/
http://www.cell.com/abstract/S0092-8674%2809%2901439-1#Comments