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COURSEWORK 1: PART A

CI5330 User Centred Design Coursework

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Introduction

This report aims to compare the paper version and the online/digital version of a newspaper. In particular, the different versions of the popular English newspaper *The Guardian* will be taken into consideration. All references are included at the end in a single section.

Business Context

In this first section, through the **Canvas Business Model**, the people the newspaper aims to reach (its potential customer base) will be analysed. It is indeed deeply important to know the recipients of a product because *"Their needs require and justify a distinct offer. They are reached through different Distribution Channels. They require different types of relationships. They have substantially different types of profit abilities. They are willing to pay for different aspects of the offer"* [1]

For this purpose, demographic analysis are used to find and study the various customer segments. **Google analytics** and a table published in 2011 by *The Guardian* itself report considerable information about the typical user profile, for instance:

Gender	
Male	52%
Female	48%
Age	
2 to 17 years old	5%
18 to 24 years old	11%
25 to 34 years old	15%
35 to 49 years old	30%
50 to 64 years old	30%
65 years old or older	9%
Gross annual household income	
Up To £15000	17%
£15000 - 19999	12%
£20000 - 24999	12%
£25000 - 29999	11%
£30000 - 49999	27%
£50000 - 79999	17%
£80000 +	6%
Average household income	40,816

Estimated social grade	
AB	47%
C1	21%
C2D	22%
E	10%
Working status	
Working full or part-time	66%
Full-time student	6%
Other	28%
Education (highest level obtained)	
Postgraduate qualification	19%
Bachelor's degree	23%
Associate degree or diploma	12%
Further education college	24%
Completed secondary school	15%
Some secondary school or less	7%

Furthermore, the website **Similarweb** provides us with further data regarding *The Guardian* website: it has a total average of about three hundred million monthly visits, each with an

average of three newspaper articles read and a visit duration of more than three minutes. 31% of site traffic comes from the United Kingdom, 26% from the United States, 5% from Canada, 5% from Australia and the remaining 33% from the rest of the world. Further important information about the customer are his interests and his political orientation.

After collecting an adequate amount of data, it is possible to identify the customer segments and to represent them through Personae: *"Personas are hypothetical archetypes, or "stand-ins" for actual users that drive the decision making for interface design projects. Personas are not real people, but they represent real people and users throughout the design process. Personas are not "made up"; they are discovered as a by-product of the investigative process. Names and personal details are made up for personas to make them more realistic and life-like."* [2]

From the analysis made so far, it emerges that the customer segments to which the newspaper *The Guardian* is exposed refer to a very diversified mass market, with unrelated segments. It is therefore possible to compose a table of personae like the following:

	Name	Age	Personal Information	Computer proficiency	Place of residence
1	Jake	41	Male, £60k, Sports Fan	Low	UK
2	Elizabeth	53	Female, £75k, Sports Fan, Technophile	High	US
3	Charlie	60	Male, £40k, Cooking Enthusiast	High	Australia
4	Megan	25	Female, £20k, Sports Fan, Technophile	Very high	Germany
5	James	86	Male, £30k, Cooking Enthusiast	Very low	UK

Finally, we need to design a different value proposition for each segment of people to whom the newspaper is accessible: "Megan", a young technophile with a low annual income, will benefit from the newspaper's website; same thing will do "Charlie" and "Elizabeth" with a possible addition of paid services. "Jake" and "James" will have at their disposal the paper version, for which it is similarly possible to have additional paid services. All these are distinctly different offers that they can choose and give different value based on their preferences.

User Experience and Usability

The **User Experience** (often referred to as UX) is one of the main aspects in Interaction Design. In general, it concerns the sensations that people experience by looking, using, manipulating or interacting in some other way with any product.
Two widely accepted more formal definitions are:

- *"UX is how a product behaves and is used by people in the real world."* [3]

- *"UX encompasses all aspects of the end-user's interaction with the company, its services, and its products"* [4]

On the other hand, the **Usability** of a product concerns exclusively how much it is functional to carry out its task, without necessarily taking into consideration the sensations of the consumer.

- *"Usability is the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use."* [5]

However, these two concepts are closely related to each other. In fact, usability is very important to have a pleasant user experience, and vice versa. In order to design a good user experience, both are measured by classifying them in terms of **Usability and UX goals**.

UX Goals[6]			
Desirable aspects			
Satisfying	Enhancing sociability	Helpful	Fun
Enjoyable	Supporting creativity	Motivating	Provocative
Engaging	Emotionally fulfilling	Challenging	Surprising
Pleasurable	Entertaining	Exciting	Rewarding
Cognitively stimulating			
Undesirable aspects			
Boring	Unpleasant	Frustrating	Patronizing
Making one feel guilty	Making one feel stupid	Annoying	Cutesy
Childish	Gimmicky		

Usability Goals[7]					
Effectiveness	Efficiency	Safety	Utility	Learnability	Memorability

Questions and Evaluation

To evaluate a product, a designer must develop and answer a set of questions regarding the UX and Usability goals of the product in question. In our case concerning the paper and online version of The Guardian newspaper, it is possible to proceed like this:

Learnability: Is it easy for the user to understand how to use the newspaper exclusively by manipulating / exploring the website? How complex is it to learn how to make the most of the newspaper / website?

> **Paper**: Knowing how to browse a newspaper can be associated with the knowledge of leafing through a book, it is therefore a very natural action for a human being. It is very simple to use and to be fully exploited; however, it is limited by its physicality.

> **Online:** It requires the user a decent skill in the use of technological means. However, knowing how to make the most of it, it becomes a much more powerful means of information thanks to its immediate and unlimited connection with the whole world.

Efficiency/Utility: Once users have learned to use the product to search for news, are they able to search for what they want / need?

> **Paper:** Yes, but it takes time and research.

> **Online:** Yes, it becomes an immediate action thanks to the ability to search for keywords within the site. In addition, once you subscribe to the online newspaper, you can customize the news to show based on your interests.

Memorability: What types of aid have been provided to help users remember how to search for news?

> **Paper:** No help is needed, the action is basic.

> **Online:** The website consists of many drop-down menus, tables and buttons that help and guide the reader to the news he wants.

UX Goals: Is the experience **enjoyable** and **entertaining**? Does it provide **cognitive stimuli** to users? Are there any **boring** or **frustrating** aspects of interacting with the newspaper?

> It depends on the character of the reader, however in general the interaction is positive and satisfying for both versions.
> **Paper:** Sometimes advertisements are too invasive and take up entire pages.

> **Online:** The advertisements are not many, the coloured graphics stimulates the reader to search for further articles and helps to keep his stay on the website.

Improvements for the Online version
(Source: https://www.theguardian.com/uk)

At first glance, *The Guardian* website looks very well done: every part of the newspaper is perfectly inside its own box, there are many aesthetically pleasing images and a good use of data hiding provides a result without superfluous elements. However, after careful observation, I noticed some small details that were worsening my user experience:

- **Videos:** There are some videos included in the articles of the newspaper, but some articles are even completely devoid of them: I would make sure that each article has at least a couple of videos inside it.

- **Advertisements:** Advertisements are a major source of income for the newspaper and their presence is therefore understandable and acceptable. However, it is not possible that within the same page there is the same advertising repeated three times! I would therefore keep the number of advertisements, but I would diversify the type of objects advertised to avoid boring the reader.
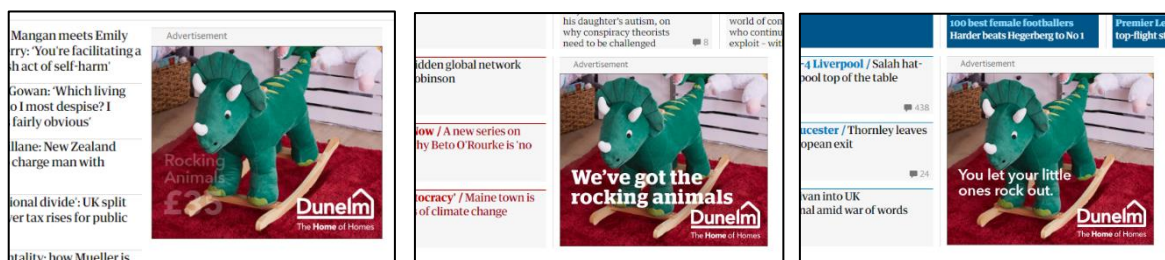
- **Advertisement on text:** Sometimes very large advertisements invade the menu space and hinder reading. I would suggest reworking the format, size and container of advertisements.
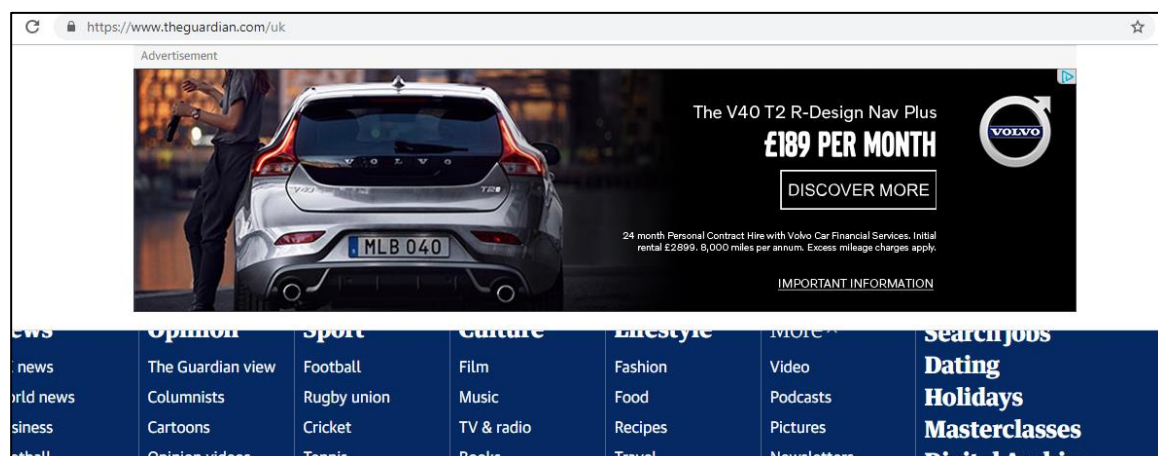
Conceptual Models

"In a nutshell, a conceptual model provides a working strategy and a framework of general concepts and their interrelations." [8]

Concepts and metaphors

Metaphors and **concepts** are two of the main components of a conceptual model.
[9] Metaphors, through the imitation of real life entities, serve the user to understand how the product works.
Concepts are the abstract ideas to which the user is exposed during the interaction with the product.

The Guardian online version shares general metaphors for a website such as:

- Save the page (= use of a bookmark) and search (= magnifying glass icon), highlight and copy parts of text;
- The use of icons and buttons representing common ideas to interact with the website (interaction type: instructing);

Time and **space** are conceptualized in a completely new way compared to the old paper version: the paper version is in fact subject to the deterioration and aging of its materials and cannot in any way be updated or improved. Furthermore, using the paper version forces the reader to take the whole newspaper with him. Now the online version is completely **free from its physicality**: the website can not be physically damaged by the client, can be instantly updated for everyone, provides links and interactions with the whole world (in the website it is possible to comment on the news, this is **another metaphor** referred to the real world), can use audio and video content, the text can be enlarged to facilitate reading.

Accordingly, the main advantages offered by the online version are **comfort**, **accessibility** and **portability**.

However, there are also some limitations on the website compared to the paper version:
- An internet connection and a technological device is required to access the online journal;
- Some people find it difficult to read much time from a screen;
- Taking notes on the online version may be less immediate;
- The paper version can be cut and used manually for any purpose.

Mental Models (Cognitive Modelling)

Mental models[10] are one of the main topics of interaction design and Human-Computer Interaction. Usually a mental model is not based on facts, each different user generates within his own brain a different mental model about the same product (a website in our case) based on their beliefs and what they think they know, right or wrong that it is. Therefore, the task of a designer is also to create a product that can convey to users a mental model as close as possible to the designer's mental model; ideally it should be identical to the conceptual model.

Let us now analyse the mental model that *The Guardian* website generates on different audience segments based on their technology predisposition.
In general, **a regular user of the website does not know** how it works behind the scenes: he might even think that the website is physically located somewhere. He has no awareness of the various networks that allow him to be connected to the Internet and the various servers and databases that retain the information he sees.
However, **users do not actually need to know** these concepts. It is enough for them to know that by clicking on a link it will open, that clicking on a particular icon will cause a specific reaction of the website and that they can explore the website using all the other functions available to them.

The user's **cognition** can be helped by some elements on the website to understand its functioning. For example, in the online version of The Guardian there are:

- Many graphics, colours and formats for texts (and a good aesthetic in general) are used and each article is enclosed in its box to facilitate the reader's **attention.** Helping them in this way will make it easier for them to focus on the remaining effective operation of the website because they will feel in a more confortable environment; [11]

- Icons try to represent objects of reality to facilitate the **perception** of their function (for instance, the magnifying glass);

- Initially only one sentence is shown that transmits the content of the entire article, to not fill the screen with unnecessary information. Seeing an arrow pointing down, the user will understand that it serves to expand the article.

A person used to using computers could therefore easily understand what the newspaper wants to convey and imagine a good mental model.

On the contrary, however, an inexperienced user could be very confused by the structure of the website, for example, the menus are full of information, a huge number of articles is shown and some icons could be misunderstood.

With the intention of improving everyone's mental model, but especially for this last segment of users, I would:

- Combine some categories of articles with each other to determine the number (for example "Food" with "Recipes");

- Create more pages to better distribute the number of articles shown per page;

- Increase even more the size of the most relevant articles.
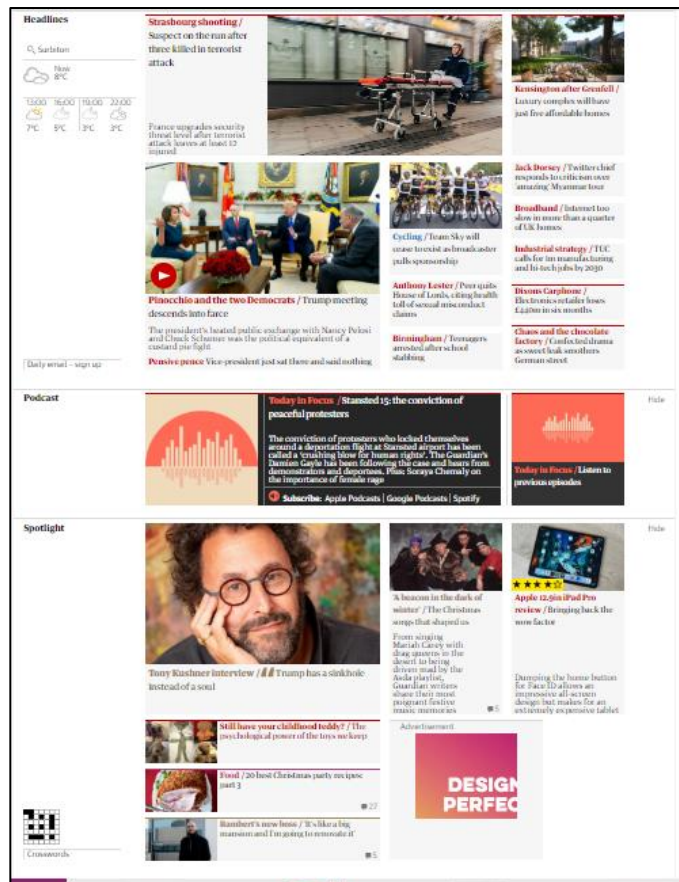
Interaction Design Principles

In conclusion, here are some sketches of the parts that I would modify in the online version of The Guardian:

Main page

The first article is enlarged to make it even more important. This will help users' attention.
[As discussed in the Mental Models section]

It is possible to take notes, various tools are available (pencil, pen, highlighter ...). This will allow users to feel in an environment that facilitates them and provides them with metaphorical tools from real life. [As discussed in the Conceptual Models section]

There are more pages for not having to concentrate everything in one. This will help users' attention.
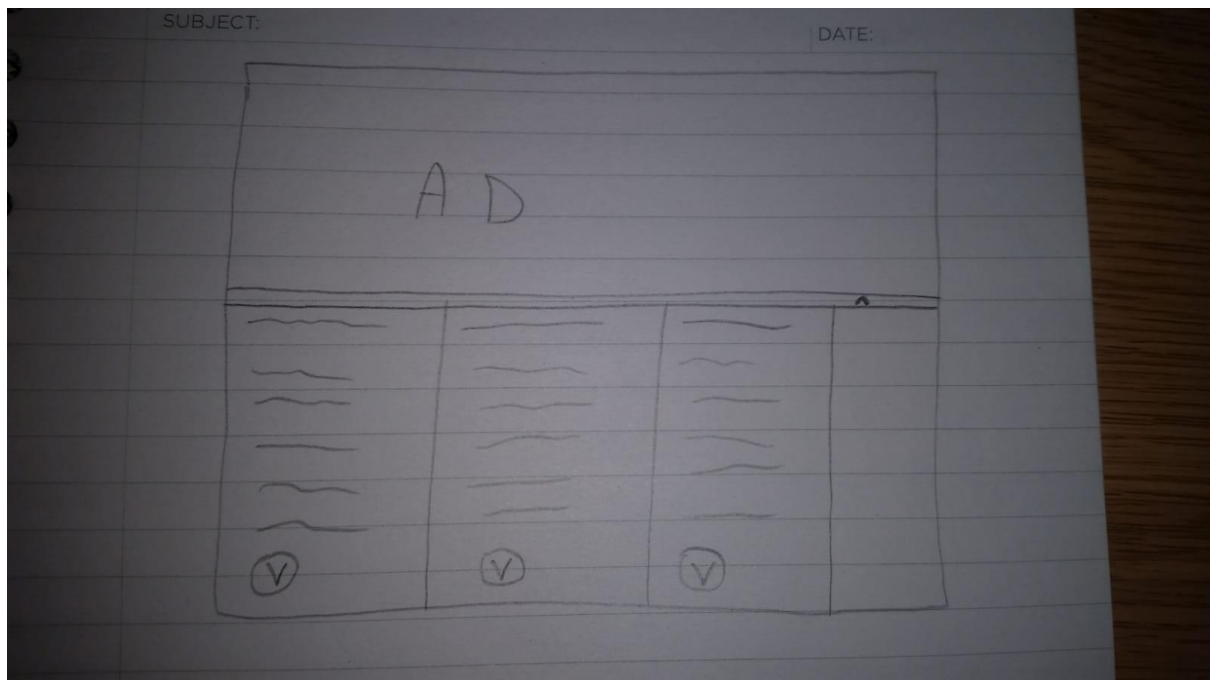[As discussed in the Mental Models section]

Article

There are at least two videos for each article to make the newspaper more interactive and pleasant to use.
[As discussed in the UX and Usability section]

All advertisements are different from each other to avoid boring the readers.
[As discussed in the UX and Usability section]

Menu

Wide advertisements remain in their own space and do not hinder the menu to avoid boring the readers and to give a better structure to the website. [As discussed in the UX and Usability section]

The menu contains fewer categories to facilitate the reading and understanding of the website. The menu can be further expanded by clicking on the appropriate buttons. [As discussed in the Mental Models section]

References

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