Usability Testing in the National Information Processing Institute, Poland

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Katarzyna Turczyn...

...works as Senior UX Specialist at National Information Processing Institute, Poland. Ethnologist and cultural anthropologist.
Graduate of University of Warsaw.
Specialized in UX, service design and cultural heritage.
Experienced in designing systems and services for public institutions and in conducting usability tests for them. Involved in creating and conducting ethnographic and social research.

Introduction

The National Information Processing Institute (OPI PIB) is a public institution whose tasks include development of IT systems for the Ministry of Science and Higher Education in Poland. An inseparable element of system design and development at the Institute is research and testing, in particular usability tests.

Methods

Qualitative research:
participant observation,
ethnography

Kirsten Hastrup:
„reality is lived,
not talkded or written”

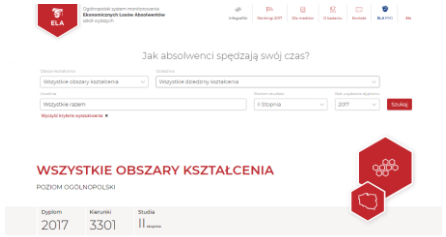
Clifford Geertz:
thick description

Research aim

Analise and show the specificity of the job of a UX researcher in the public sector indicating the pros and cons of the working environment in comparison to the ideal process of system design and development.
Identifing areas which could bring the process closer to the ideal.

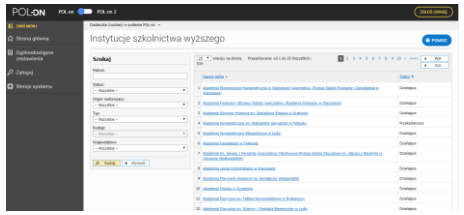
Research area

ELA³



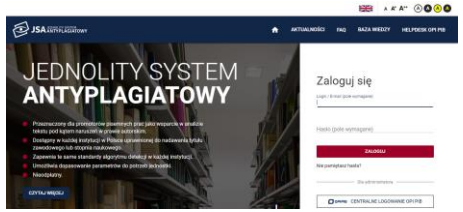
A system for secondary school graduates, students and university employees, which contains statistical data on graduates' earnings and employment.

POL-ON



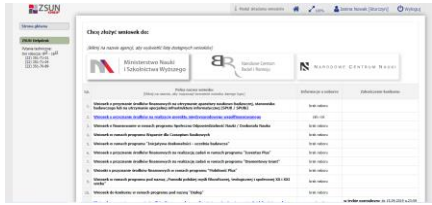
A database system on institutions related to higher education and science in Poland.

JSA JEDNOLITY SYSTEM ANTYPLAGIATOWY



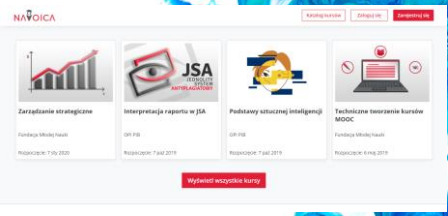
An anti-plagiarism platform for verification of dissertation and thesis content.

ZSUN OSF



A system which facilitates submission of applications for funding in the science sector and the subsequent handling of these applications by public administration entities.

NAVOICA



A free-of-charge educational platform with MOOC courses.

- The systems developed by OPI PIB are mostly database systems, mainly used by employees of the science sector.
- The development of the existing systems required the digitisation of data and the establishment of software to reflect the previously applied “paper-based” procedures.
- The current systems have not only grown out of paper procedures, they have also retained a lot of the legacy features. It seems fair to say that paper documents continue to determine the interface of the existing systems, at least to a certain extent.

Challenges for systems and apps developers in the public sector

Legal conditions

Various users

Accessibility

Making changes

Paper

Being a monopolist

- The formats of documents and processes, including digital ones, depend on the legal conditions, laws and regulations. We can therefore say that non-intuitive information architecture of some system elements, a lack of certain functionalities are sometimes a consequence of the legal framework.
- Users of the systems developed by the Institute, despite their often similar motivations to use the system, differ from each other on many levels. The differences impact the final interface of the system. Users have also different levels of digital competence. They represent the various fields of science and for example, some people find it easier to understand a legal text, while others find legal texts challenging. The heterogeneity of system users also results from the disabilities they may have.
- System design standards are changing, and elderly users often transfer their experiences from other media (newspapers, books, paper forms) to the portals and systems they are expected to work with. Younger users are impacted by the website services they use, too.
- Much of the work at OPI PIB consists in introducing changes, transformations, extensions to the systems which were developed when the standards and requirements were different from the current ones.
- The users of the systems developed by OPI PIB sometimes have to use them for work, and sometimes in order to acquire a grant. In this environment, some system developers may feel that they are monopolists. Regardless of what the system will look like, its users will still simply have to use it. For this reason, it is necessary to carry out research and analysis based on data from the end users of the systems.

UX research in the OPI PIB

Since 2014, the number of usability studies and research carried out by the Institute has increased significantly. Evolution in research has not only changed the number of the studies but also increased their diversity. Types of research mostly used in OPI PIB, except for UX audit are:

Focus Group Interview

Focus groups are used mainly in the early stages of system design and in the redesign of existing systems. Thanks to a focus group interview, it is possible to collect a large amount of information, insights, and translate them into conclusions and recommendations in a very short period of time.
Focus groups often give direction to changes, provide information about users, their patterns of behaviour and expectations, enabling the researchers to use projection techniques and collaborative design.
The greatest risk in focus groups is associated with the role of the facilitator. Incorrectly facilitated tests may distort the results. If the facilitator is too withdrawn in the testing situation, one of the respondents may take over the role of the leader. Moreover, the Groupthink Syndrome can also occur..

Usability testing and Individual Interview

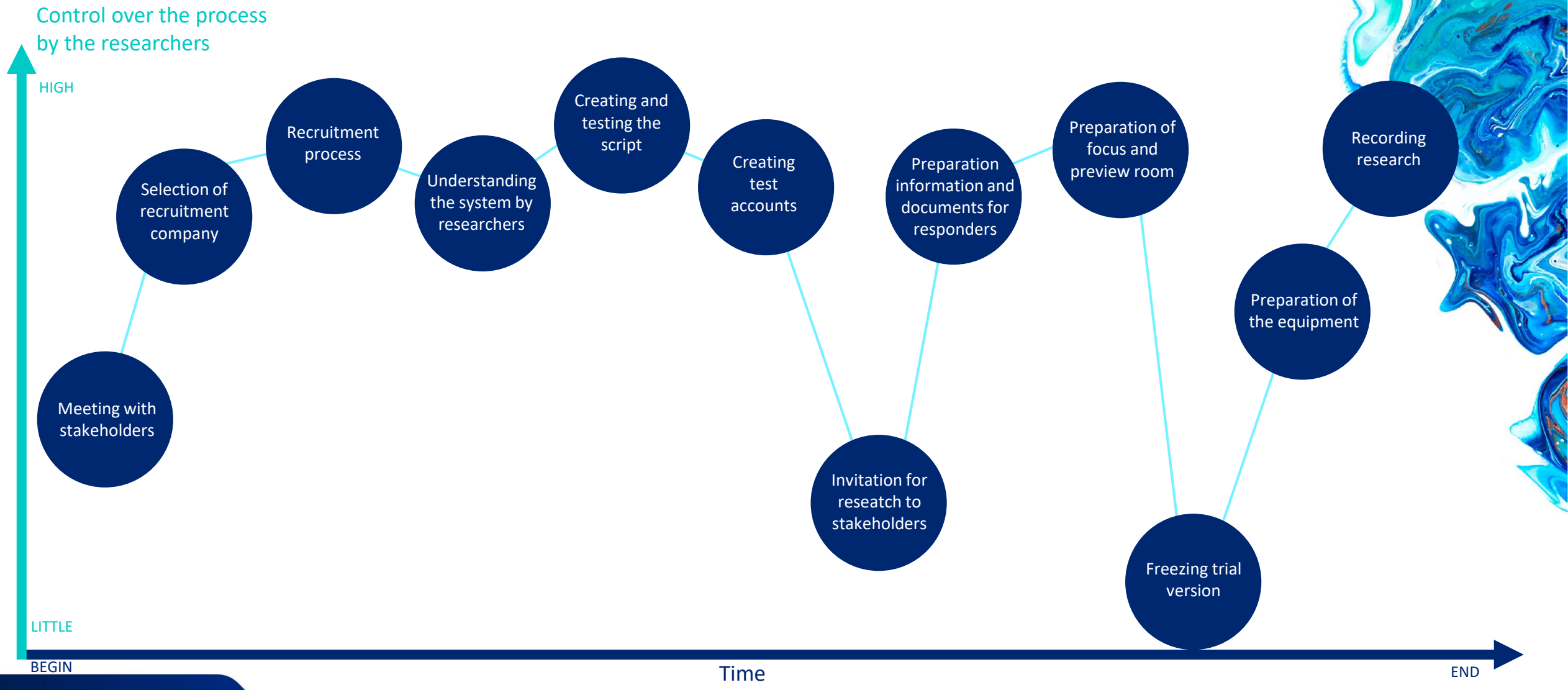
This is the most frequently used research method at the Institute. It generally takes place at the Institute's headquarters in a specially adapted testing room. Such tests show how comprehensible the system is and where the critical points are that need to be modified in the first place.
A big advantage of the tests is that the developers of the system are able to see live reactions of the respondents as they are interacting with the system. Furthermore, during task testing it is possible to ask in-depth questions which may have arisen during the test.
As regards respondents, it is very important to ensure that they feel comfortable during the test, in particular if the respondent is a university employee who may feel that their knowledge and skills are being put to a test by an institution that supervises their work.

Preperation of usability testing

The process of data gathering preparation at OPI PIB is presented in the next slide. It concerns the implementation of the most frequently applied type of testing at the Institute, i.e., task-based usability tests in a test environment.

The highest probability of complications is in situations where researchers depend on other people, not on technology. This is why the researcher's soft skills and good cooperation with project team members are so important. Unfortunately, despite the fact that these skills are highly relevant, it is not easy for entities from the public sector to ensure and provide employee training in this area.

Preperation of usability testing



Implementation of usability tests

The three pillars on which good research results are based are:

Tasks

- It is of key importance for all tasks to be natural and logical – they should minimize unnatural actions like logging out and logging in to another account.
- Importantly, the perception of the passing time is different for the observers and different for the person who is actually performing the task. The moderator should be patient
- Employees of the science sector (users of previous versions of the system) may have many valuable reflections. This type of testing is no longer a classic usability test, but a hybrid with an in-depth interview.

Conversation

- In the introduction, it is always a good idea to inform the respondents what the tests will look like and how long they will take.
- The most important information to be conveyed to the respondent is that he or she is not going to be evaluated – this seems particularly important when working with employees of the science sector as they sometimes perceive our institution as superior and affiliated with the Ministry of Higher Education and Science.

Atmosphere

- The facilitator should radiate positive energy and develop a friendly and open test atmosphere. It is essential for the facilitator to be empathetic.
- The results of the test largely depend on the facilitator's involvement in building a positive, relaxed atmosphere conducive to the respondent’s cooperation and information-sharing.

After usability tests

Inner summary meetings	Report creation	Result presenatation meeting	Determine the progress/ staying in touch
The first meeting after research is informal and aims at discussing the results with the researchers involved in the project. The second one involves the stakeholders and is aimed at discussing the most important observations, and, if possible, should be organised within a short period of time after the end of the testing procedure.	After the report has been created, the first thing to do is to establish the date of its presentation, before the report is sent out to stakeholders. If there is no set date, the stakeholders may find it challenging to find time to meet later.	It is a good idea to remember to send the report out to the stakeholders before the presentation. This is sometimes due to the fact that the designers may be slightly anxious as to whether the report will show their work in bad light. They may also feel that their contribution is being evaluated.	It is good practice to determine the progress in introducing changes sometime after the test, as well as determining if the designers have all the information necessary to implement the necessary modifications. Their continuous interest in the subject increases the probability that the proposed changes will actually be implemented.

Usability tests' results

Areas that ussually require refinement:

Names, headings and keywords	Users quickly browse the website for specific keywords, sentences or paragraphs and skip most of the text. It is therefore important to organise the content, group the elements and assign headings, titles and labels to them in an appropriate way. In public institutions, some of the terminology that can be found on websites is based on acts of law, regulations or technical documentation. This leads to lack of terminological clarity for users and difficulties in understanding the content.
Icons	They help users remember content more easily and quickly, making the message more interesting. It is important to remember that icons should be adequate to what the system is supposed to communicate to its users.
Diagrams and graphs	They should always include explanations and legends. The graph and its description should be visible on one screen at the same time so that the user does not have to scroll between the graph and its description.
Texts' length	Large blocks of lengthy text are not attractive and are discouraging to users. Text should consist of short or medium-length sentences grouped into paragraphs. The content can also be split into bullet points.
White spaces	System developers often misinterpret system legibility of a system as a lot of white space on the screen. Such an approach to design is often counterproductive. Designers believe that by giving up illustrations and graphics, they can avoid the superfluous content characteristic of commercial websites overloaded with advertisements, pop-ups and banners. This misguided ascetic approach may cause the system to be perceived, on the one hand, as clear and transparent, but on the other hand – as overly rigid and official.
System coherence	It is important that all elements of the system should fit together and the construction of the site should be coherent. Consistency of the components makes the design intuitive, easy to navigate, and easy to use.
Searching	It would be good if the search results covered the whole system, not only its selected part or category. Users should be given to the possibility to enter keywords with spelling mistakes, typos and incorrect conjugation. It is very important to present the search results properly, displaying the searched information or its fragments in the format expected by the user.

Conclusions

1. It is important to apply different research techniques, appropriately matched to the given development phase of the system.

2. A key task is also to change the attitude of designers and developers of systems to users. It is essential that system designers focus mainly on users and their needs, and that they take into account users' limitations.

3. Communication is the foundation for creating systems that will match users' expectations. It is beneficial to indicate how both system developers and users can profit from properly delivered testing.
   - Benefits can be facilitated by issuing reports to provide stakeholders with more information about users and the testing procedure.
   - It is also necessary to organize meetings with stakeholders as often as possible in order to talk about their needs and indicate possible solutions.

OŚRODEK PRZETWARZANIA INFORMACJI
PAŃSTWOWY INSTYTUT BADAWCZY

Thank you

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