METEOR

Mental Health: Focus on Retention of Healthcare workers

Toolbox first version

Deliverable number: D 17

Version: v2

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1. Introduction

Developing open access and a ready-to-use online toolbox is the main objective of work package 7. The online toolbox aims to improve the understanding of and provide access to retention policies, interventions, and guidelines with a focus on the mental health of health professionals, and it will support key stakeholders in the implementation of retention strategies.

The Medical University of Silesia in Katowice (SUM, Poland), the Polish partner in the METEOR project, is the work package leader of work package 7 in which the toolbox will be developed. According to the project timeline, the first version of the online toolbox has to be available 12 months after the project starts.

Currently, the skeleton of the toolbox has been developed (Fig. 1 and Fig. 2). The tool is stored on the SUM servers and was built using WordPress software. WordPress is a free, open-source tool, which is a very popular website builder. At this point, the toolbox contains the default graphics available in WordPress and is ready for a further development process that will be based on an iterative approach.

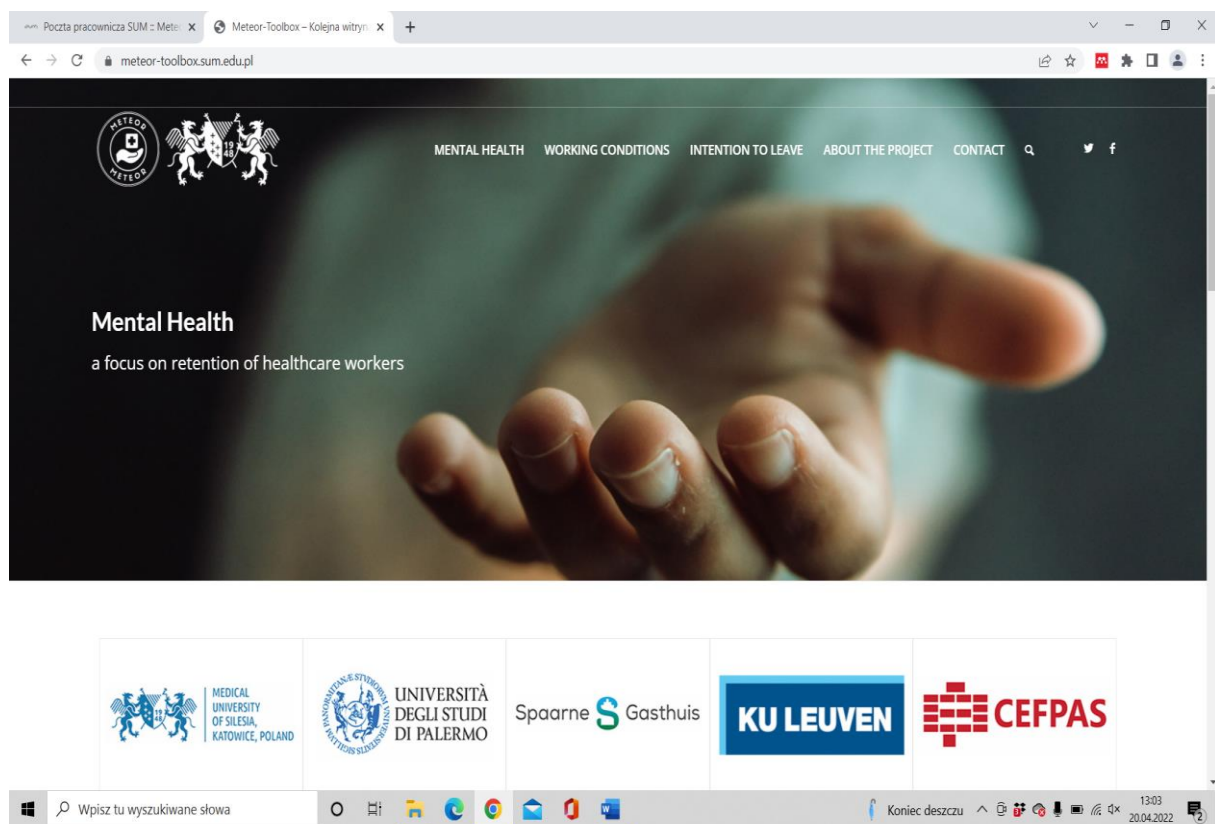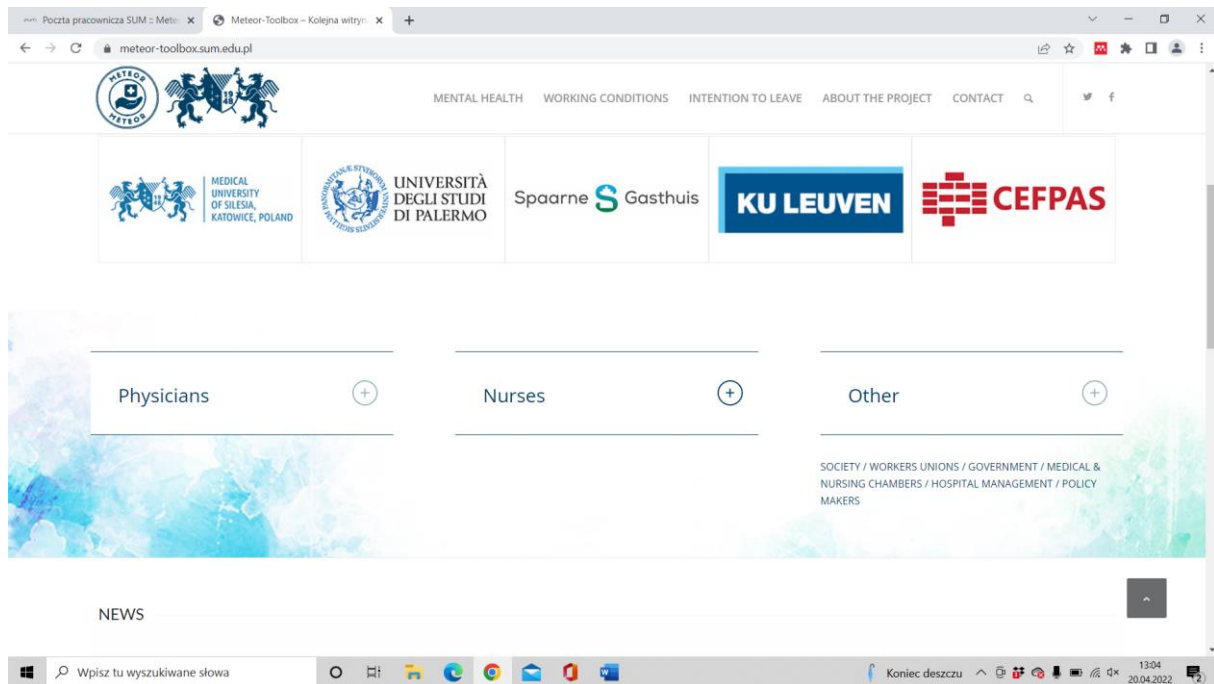**Fig 1. Print screen of the main page of the toolbox skeleton.**

**Fig. 2. Print screen of the main page of the toolbox skeleton.**

An iterative approach means that the toolbox will be delivered in increments which will allow all partners to give feedback regarding the implementation process. A typical iterative software development procedure is based on the following four-step pattern:

1) Plan – Iteration planning focuses on the planning and discussion of the requirements and objectives of the METEOR project. During the planning phase, IT specialists recap the finished iterations and discuss anticipated needs moving forward. The planning phase of both terations should be finished in April 2022 and 2023 respectively.

2) Design – Iteration implementation concerns the analysis, design, and implementation of projects. The team develops a toolbox during this phase of the cycle. The developer can also test the functionality of the product in the design phase. The design phase of both iterations should be finished in July 2022 and 2023 respectively.

3) Check – Iteration testing will ensure that the deliverable meets the project requirements. If certain criteria are not met, the project team can move backward to the other phases for further improvements. The check phase of each mentioned iterations should be finished in September 2022 and 2023 respectively.

4) Adjust – Iteration evaluation means comprehensively reviewing the work of the iteration or cycle. The software development team will also refine its backlog to prepare for future iterations. The adjust phase of each mentioned iterations should be finished in November 2022 and 2023 respectively.

Fig. 3 presents the timeline of two iterations that will be conducted in 2022 and 2023. We plan to present the proposal for the final version of toolbox for consortium members in November 2023, to have the possibility to make improvements before February 2024, when the final version of toolbox should be delivered to all stakeholders.

Fig. 3. Timeline of the iterative toolbox development process.
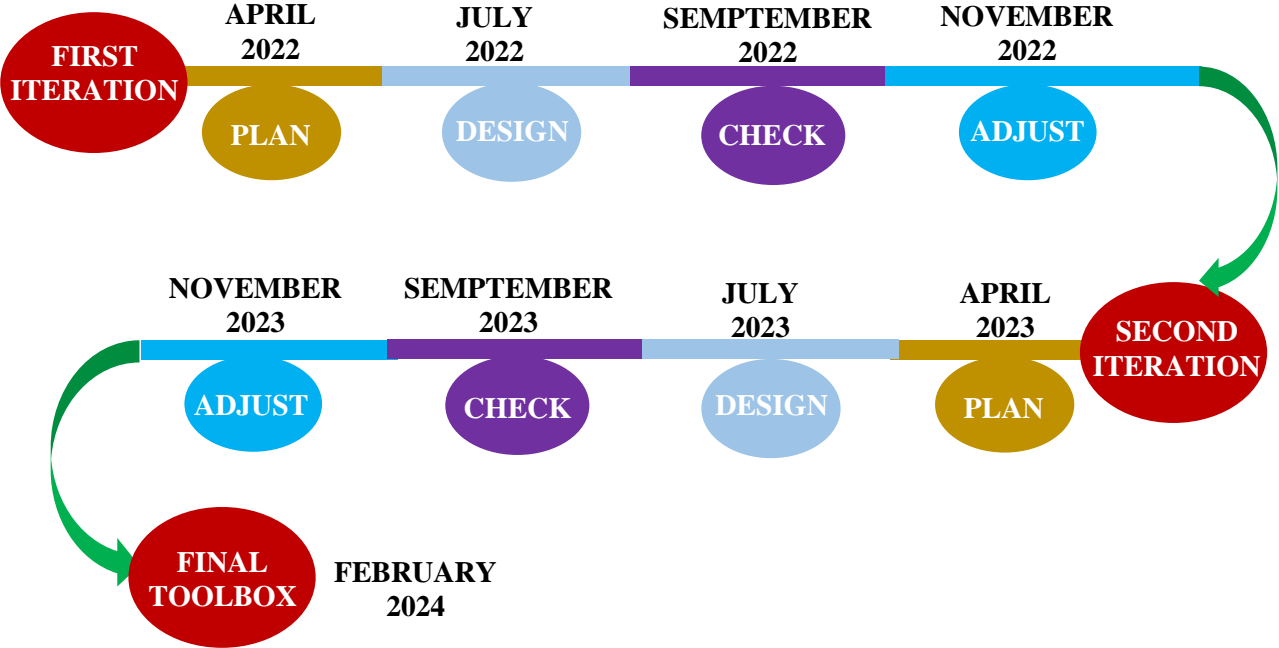
2. The development of the toolbox framework

The development of the toolbox framework was based on a review of existing toolboxes, which provided us with examples of the functionalities of the toolbox. From these we can derive the following key characteristics for a successful toolbox:

1. Toolbox has to be an easy and intuitive in use for the potential user;
2. Toolbox has to be oriented for specific users;
3. Toolbox is a practical solution for the specific community.

Next, the concept of the toolbox has been prepared. Below is a description of the particular elements that make up the toolbox framework, including graphics.

On the main page, the user can find a description of the METEOR project and its main goals. Figure 4.1. shows that the toolbox will be connected with the METEOR website, which is already available. Every stakeholder will be able to click the link and be redirected to the toolbox. What is more, the toolbox will be also linked with social media platforms, such as Facebook, Twitter, Instagram, and LinkedIn. In contrary to the website that has got information

value, the toolbox will provide stakeholders-related functions and it will be specialized for their specific needs.

Interested users will be able to use the toolbox in four different languages: English, Dutch, Italian and Polish.

Fig. 4.1. The concept of the toolbox framework – part 1.

Social media	Language	METEOR website
- Facebook	- English	
- Twitter	- Dutch	
- Instagram	- Italian	
- LinkedIn	- Polish	

Mental health	Working conditions	Intention to leave	About the project	Contact
- burnout syndrome - occupational fatigue syndrome - employee retention - bullying - legislation - non-government organizations	- night shifts - working hours - standard vs. real number of employment - salary - bureaucracy - equipment - policies - legislation	- individual - structural - other: ex. pandemic, war	- description of hospitals - results of the survey - publications -co-creation activity	

The toolbox will contain five buttons regarding "Mental health", "Working conditions", "Intention to leave work in a hospital", "About the project" and "Contact". Each button will be interactive and users can find general information such as the definitions of the presented terms, applicable legal regulations in occupational medicine, working conditions, etc.

Information retrieveable in "About the project", clicking the button "description of hospitals", will contain information on participating institutions, including data on the 8 participating hospitals, their logos, and a short description of the basic characteristics of each hospital obtained in 2021 (cf. report on micro-policies). Moreover, the homepage will provide users with access to basic data on the different health care systems, such as the number of working physicians and nurses per 1000 inhabitants, expenditure on health, EHCI index (Euro Health Consumer Index), etc. for the countries participating in the project.

When clicking the button "results of the survey", the user will have an access to the results of two surveys managed by WP5. Alternatively, choosing the button "publications", there will be the results of systematic reviews related to the risk factors for retention of medical workers, which are managed by WP4, in addition to applicable international and regional regulations, and selected occupational mental health problems concerning physicians and nurses employed in hospitals. The update of this section of the toolbox will be continuously ongoing as the results of the other WPs become available. Additionally, after selecting "co-creation activity" there will be included policy recommendations developed as a result of co-creation workshops organized in participating hospitals (part of WP6).

Furthermore, there will be an option to choose all information depending on the profession (Fig. 4.2). It will provide the opportunity of receiving specific information about mental health, working conditions, and intention to leave, that will be tailored to the needs of particular stakeholders. Fig. 4.3 presents the example for physicians.

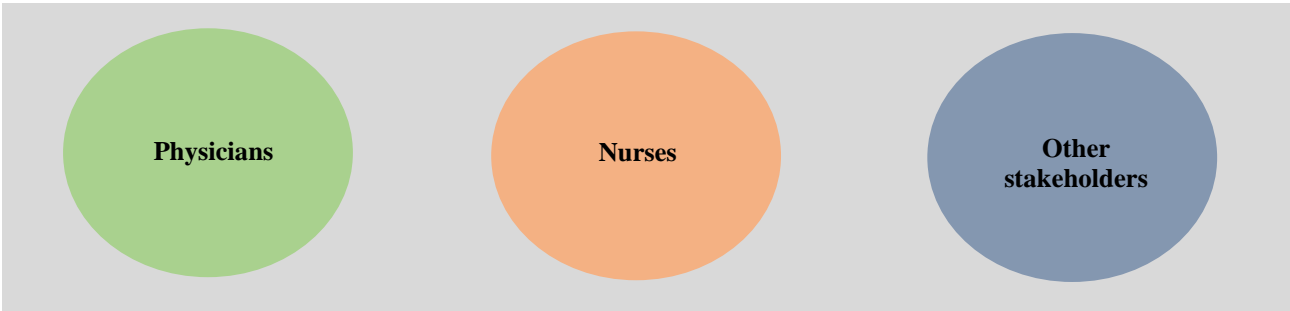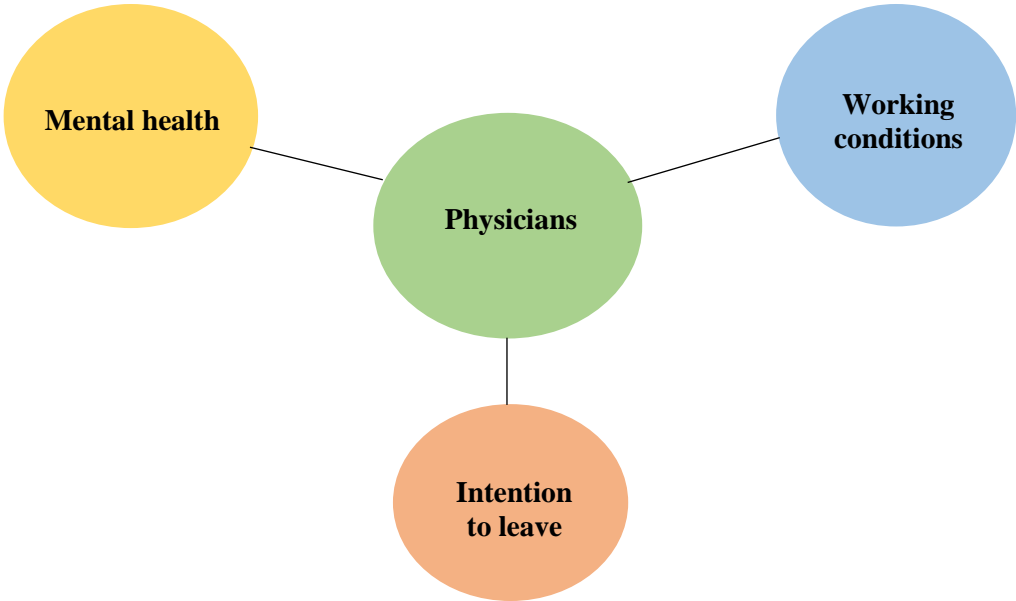**Fig. 4.2. The concept of the toolbox framework – part 2.**

Fig. 4.3. The concept of the toolbox framework – part 3.

Finally, already existing practices, interventions, policies, data aimed at micro-level retention strategies, and results of the survey will be used to prepare the content of the tool at the next development stages.

It is also planned to include an informational page with a possibility for users to send feedback to the METEOR team for improvements (Fig. 4.4). The feedback website button will be also available to provide an option for users to convey their experience directly to the METEOR project team.

Fig. 4.4. The concept of the toolbox framework – part 4.

Informational page that includes feedback button ⇨ **Feedback**

3. User Experience

The users will be able to select one category from the main menu. After selecting a specific category the dropdown menu will appear with a submenu. For instance, after selecting mental health the dropdown menu will include the following options: burnout syndrome - occupational fatigue syndrome - employee retention - bullying- legislation - and non-government organizations. After choosing for instance "bullying" category from the submenu, the subpage will appear with specific information about "bullying". For each category, a specific subpage will appear.

Since the toolbox will contain plenty of information it will include a userfriendly navigation structure of the website. It will support users in searching the specific area of interest. Finally, after selecting profession from the bottom menu, the user will have the opportunity to select categories as mental health, working conditions, intention to leave and information about project, that will be suited to the needs of physicians, nurses and other stakeholders (Fig. 5 and Fig. 6).

**Fig. 5. The navigation menu structure of the toolbox.**

Fig. 6. The navigation menu structure of the toolbox – continuity from the previous page.
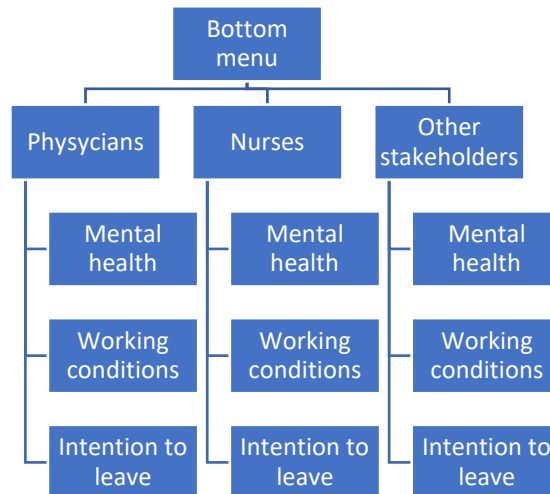
4. A functional analysis

It is worth adding that in the next stages of the toolbox development, a functional analysis will be used to develop the functionalities of the toolbox. A functional analysis is a method for measuring functionality delivered to a user, independently on technical requirements. Such analysis helps gather all requirements and detailed functional specifications. For example, such analysis has already been used to develop the toolbox framework (Fig. 7). It contains a set of all actions that can be performed in the toolbox from the users' point of view and is very useful as a benchmark for the IT specialist who will create the tool.

Fig. 7. Functional analysis for the toolbox framework.
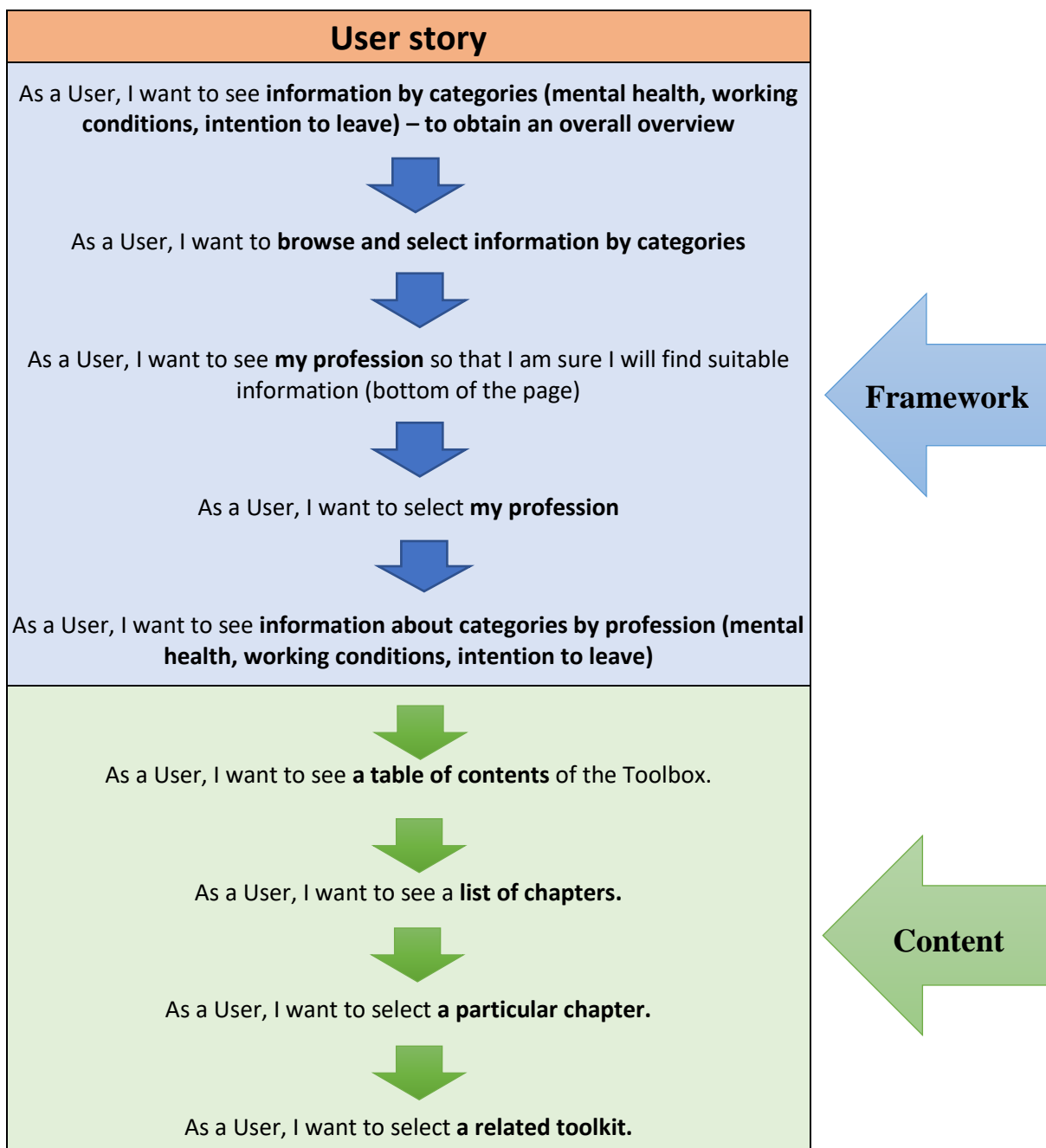
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