Towards large-scale adaption and tailored implementation of evidence-based primary cancer prevention programmes in Europe and beyond (PIECES)

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Executive Summary

This document reflects on all the work conducted in the context of Work Package 3 (WP3) of the PIECES project T3.3 PCP-IT platform provision between June of 2024 and November 2024. It describes: a) the requirements elicitation process, b) the UI/UX co-design process, c) the ItFits-toolkit platform from a technical perspective adapted to PIECES, and d) the platform laboratory testing.

The work conducted in WP3 started early by taking insights at the requirements elicitation phase which mainly came from WP1 and WP2. After an interactive workshop in Amsterdam to adapt the ItFits-toolkit to the PIECES project, involving all the relevant stakeholders in strong development-testing cycles, this WP will produce one main product: the first version of the PCP-IT Platform to be used in the piloting phase.

KEYWORDS ItFits-toolkit, PCP-IT, Utilisation platform, technical requirements, Data Collection System, co-design and laboratory testing process

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1. Introduction

1.1 About this document

This document presents the result of the Integrated Implementation Framework platform, delivered as part of Deliverable 3.3. It provides a comprehensive overview of the platform's features, functionality and intended use within the context of enabling the effective implementation of evidence-based primary cancer prevention programs. The platform integrates the conceptual and methodological work developed in WP1 and WP2, offering tools and resources to facilitate program adaptation and implementation.

2. Construction of the platform – overview

2.1 Overall purpose of WP3

The main purpose of the PIECES project is to adapt and implement existing evidence-based programmes to improve implementation out outcomes and by that, improve reach and effectiveness of primary cancer prevention programmes in real-world settings. In WP3 of the PIECES project one main product needs to be developed:

1) A comprehensive repository of evidence-based primary prevention interventions for cancer, including detailed information about their theory of change, working mechanisms, implementation practices, and appraisal of the supporting evidence-base of their effectiveness.
2) An integrated community-guided toolkit for selecting and adapting primary prevention programmes and developing tailored implementation strategies; the so called: Primary Cancer Prevention Implementation Toolkit (PCP-IT).

Both products are considered critical to the successful consecution of the project.

2.2 WP3 initial planning approach

During the proposal phase WP3 was planned following the idea of developing the PCP-IT by adapting the ItFits-toolkit to the Integrated Implementation Framework and knowledge gained in WP1 and WP2. Tasks in this WP will start early by getting insights from the discovery phase and will continue by performing the requested adaptions to the ItFits-toolkit as defined by WP2. This WP will also verify and ensure the quality of the produced software by testing the platform in the laboratory, and it will support and train Implementation Sites and their ecosystems when interacting with the platform during the overall project timeframe. In essence, WP3 will pursue the following objectives:

- To develop, deploy, and maintain a multi-faceted platform that enables efficient use and re-use of the Integrated Implementation Framework by relevant stakeholders;
- To develop the training material to be used as a reference for the systemic usage of the technologies supporting the Integrated Implementation Framework.

Below we provide a summarized description of the activities as initially planned that will be carried out until M48. Figure 1 illustrates the overall proposed timeline for WP3 activities.

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Task 3.1: Functional specifications and requirements

Duration: M1-M8. Following the methodological framework for mapping and appraisal of PCP programmes developed by WP1, we have defined the basic requirements for implementation of PCP-IT from a technical perspective. At the same time, WP2 has provided insights on the adaptations to be performed in the ItFits-toolkit for the tailoring and execution of implementation activities. To ensure a full understanding of the functional needs, there has been a strong involvement of the software developers (DSOFT) and the Technical Coordinator within the requirements elicitation between WP1 and WP2.

Task 3.2 UI/UX iterative co-design process and testing

Duration: M9-M11. In this task, the interface designers will follow an iterative co-design process (3 cycles of 1 month). In strong collaboration with WP5, the main objective of these agile co-design and development cycles is to consider all the different perspectives of the involved stakeholders utilising the platform who have different backgrounds and roles from conceptualisation to practical usage. The applied approach will divide the work to be conducted in four main phases:

(1) requirements elicitation through focus groups

(2) development of the UI/UX

(3) testing

(4) cooperative evaluation.

This process, conducted three times for three months, will ensure that the most appropriate user interface is implemented by the platform developers.

T3.3 PCP-IT platform provision

Duration: M10-M12. The collaborative tool will be developed based on the functional specifications and requirements emerging from T3.1 and will include the UI/UX as detailed in T3.2 which covers the report on specifications and requirements for optimal utilisation of PCP-IT. Amongst others, the components included in the platform are:

• Access to the repository of PCP programmes and implementation practices, and guidance in adapting them using the process conceptually developed in WP2;

• Generalisation of the ItFits-toolkit (including implementation determinants and strategies) and shift from a self-guided to a community-driven approach;

• Interactive guidance in applying the methods from WP2 and implemented within the ItFits-toolkit;

• Online forum and frequently asked questions for applying the ItFits-toolkit.

The main outcome of this task will be an advanced collaborative ICT tool supporting PCP-IT which will be the central element to be used during actual implementation process by Implementation Sites and the main assessment tool for measuring project-level success.

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T3.4: Platform laboratory testing, training materials and operation support

Duration: M12-M42. The main goal of this task is to run application software tests to check the functionality according to what was defined in T4.1 and T4.2. Furthermore, this task will evaluate the performance of the software system developed by the project and will include:

• Use of standard quantitative methodologies to test the software;

• Checking the UI/UX usability in a pilot test conducted by external people from the consortium, to test the platform in a real-like situation;

• Results of testing and evaluation will be used to improve the design of the final version;

• Provision of training materials to facilitate and feed into the dissemination activities in WP7.

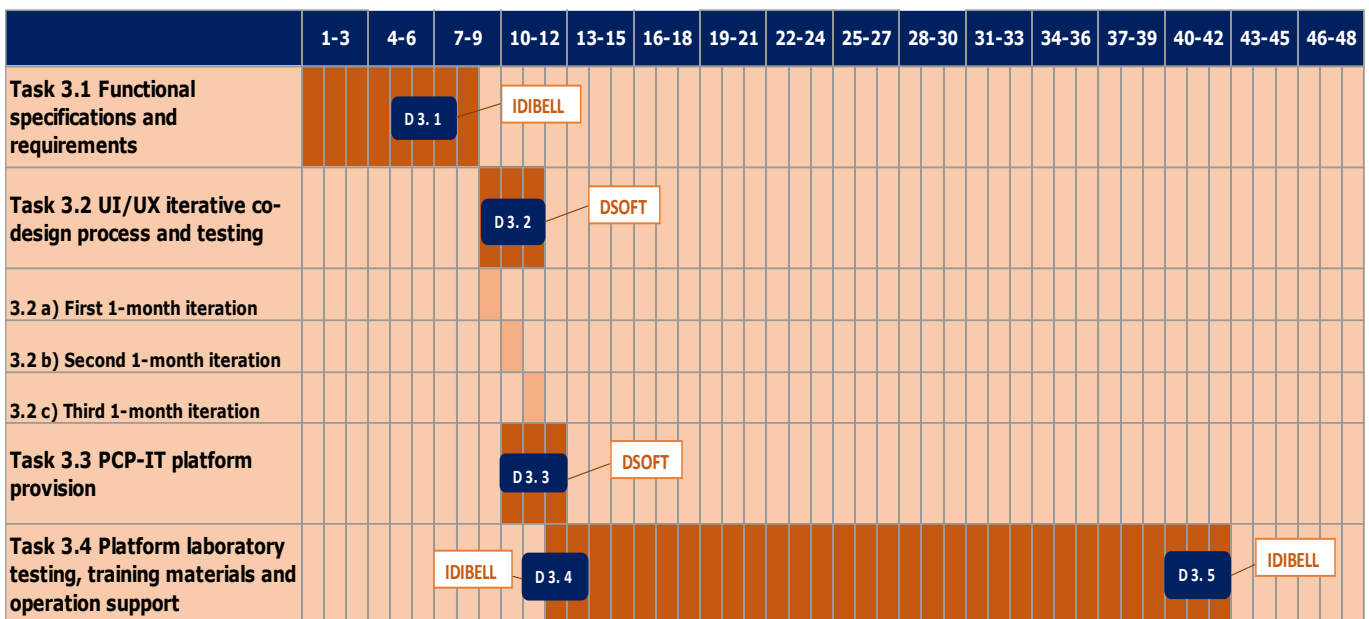|	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	31-33	34-36	37-39	40-42	43-45	46-48
Task 3.1 Functional specifications and requirements		D3.1	IDIBELL													
Task 3.2 UI/UX iterative co-design process and testing				D3.2	DSOFT											
3.2 a) First 1-month iteration																
3.2 b) Second 1-month iteration																
3.2 c) Third 1-month iteration																
Task 3.3 PCP-IT platform provision				D3.3	DSOFT											
Task 3.4 Platform laboratory testing, training materials and operation support			IDIBELL	D3.4										D3.5	IDIBELL	

Figure 1: WP3 Overall project planning. Project planning including the different tasks and deliverables.

The linear/waterfall methodology was selected for the requirements elicitation phase of the project (T3.1) because WP3 had to wait for the inputs coming from WP1 and WP2.

On the other hand, and related to the design of the UI/UX (T3.2) and the coding (T3.3) an iterative co-design process methodology was selected. As it was mentioned before, proceeding in that way allows for changes after the initial planning, it's easier to add new features (new business needs) and it's good in environments with high end user involvement.

The last part of the development planning corresponds to the laboratory testing phase and the preparation of the training materials. This phase was also planned on a linear way right after the different development cycles. Obviously, the different development iterations include unity testing sprints done by the same developers but it's also a good practice to perform a proper testing with end users outside the software development team under controlled conditions before going live.

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3. PCP-IT

3.1 Overview

The PCP-IT is a digitally accessible toolkit that offers a step-by-step process for selecting and adapting PCP programs, and for designing and applying tailored implementation strategies to help support the implementation of their adapted PCP programs into practice. The toolkit combines a theory driven approach to implementation work with practical evidence-informed information about PCP programs, factors that can inhibit the implementation and strategies for addressing these factors. All this information is packaged in an online toolkit in a way that provides a structured approach to tailoring with easily accessible resources along with guidance on when and how they might be used.

Considering the innovative nature of Primary Cancer Prevention Toolkit (PCP-IT), the complexity of the settings in which it will be used in the PIECES project, and to ensure toolkit usage is maximized, implementers will be guided in applying the toolkit. This and the specification of guidance, is important so we can draw valid conclusions on the impact and usefulness of the toolkit in supporting implementers in tailoring and implementing PCP programs successfully.

The toolkit is designed as a community supported self-help toolkit. Furthermore, considering matters of sustainability of the toolkit after the PIECES study, a minimal guidance modality is chosen. That is, the working mechanisms of tailored implementation are conceptualized and operationalised in the online toolkit and should not stem from the guidance provided that exists outside or apart from the toolkit. Therefore, the guidance is designed to focus on supporting implementers in understanding and applying the toolkit, i.e. providing the skills and support to the implementers to use the toolkit.

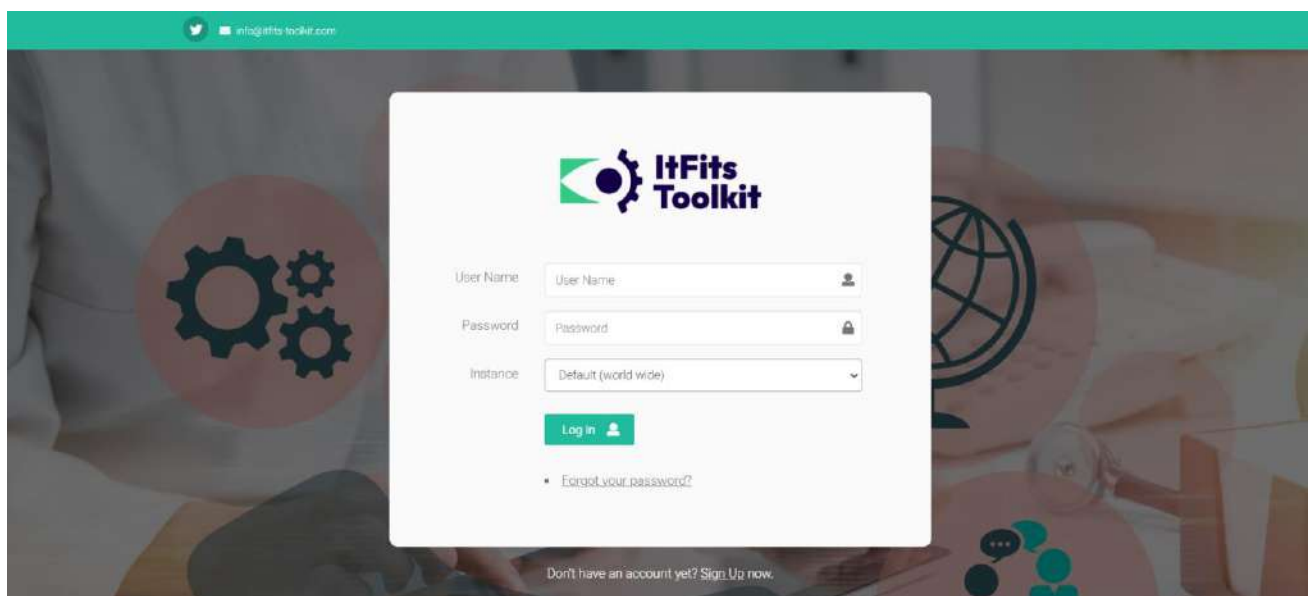You can access to the toolkit via the following link: https://global.itfits-toolkit.com/

Figure 2: ItFits-toolkit interface.

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Figure 3: Welcome page ItFits-toolkit.

The toolkit is divided into two parts with in total six modules. The first part will help you selecting and preparing the program for implementation. The second part, focusses on developing a set of strategies to implement the program of your choice.

Select– provides guidance on specifying the health problem you want to address and selecting a program to address the problem. It gives you access to a repository of evidence-based programs to help you decide in case you have not already selected a program.

Adapt – provides guidance in adapting the selected program so it better fits your needs and target audiences. It aids in decision making by helping to systematically list necessary changes, while ensuring the program's proven effectiveness is maintained.

Identify – provides guidance on how to identify implementation goals and the range of barriers for achieving those goals. It also provides guidance on how to prioritise these goals and barriers.

Match – provides guidance on how to match barriers with a range of potential solutions. These solutions are implementation strategies that have been used by others to overcome similar barriers in different contexts.

Design – provides guidance on how to design your implementation strategies, how to adapt them to the needs of the people and organisations you are working with.

Apply & Review – provides guidance on how to apply the implementation strategies you have chosen to focus on and on how to review the impact of your implementation strategies. Through your assessment you may find that you need to adapt or modify your implementation strategies or need to focus on a different barrier. At times, you may even feel you need to change your focus, to work on a different implementation goal.

3.2 Library

Throughout the modules, the user can access the content library. While working in a project, the library will be easily accessible from a button in the upper right corner. The library offers an overview of all materials the user will engage with throughout the tookit flow and provides the opportunity to revisit and review these resources at any time.

3.3 Team

Implementation is a team effort and it's essential to understand the roles of those involved in the tailoring process. The three types of roles we describe within the toolkit are:

Implementation Lead – the person responsible for leading the implementation work. In line with the 'be organised' principle, the lead takes responsibility for a specific project and oversees the completion of the toolkit modules.

Core Team – the group working with the lead to coordinate the implementation work. This team typically includes a diverse set of people from the organisation, with dedicated time to focus on the implementation work.

Stakeholders – the broad range of people who are involved in delivering the innovation. These could include general practitioners, alongside practice managers and technical staff. These maybe people you currently work with or people you may want to work with in the future. In line with the 'be open' principle, it's important to listen to and value your stakeholders' knowledge and experience. You can use the module tool to identify and keep track of your stakeholders.

3.4 Module tools

Throughout the toolkit you'll find four widgets that will help you collect and store relevant information. They are:

Consensus techniques – these are commonly used methods for engaging with your core team or stakeholders. Techniques include brainstorming, structured group discussions, informal conversations, email discussions, and surveys. Your technique choice depends on available time and resources. Recommended techniques appear in bold throughout the modules, with guidance provided.

Reflection - to reflect on the progress and work completed so far.

Surveys – throughout the toolkit you can create custom surveys to help you collect information for tailoring implementation strategies. You can create various types of questions such as list type, table type, slider type or numeric type. Once you created a survey you can send it to potential participants via the toolkit. Collected data can be downloaded as Excel spreadsheets for further analysis.

Attach a file – allows you tu upload materials collected during the process of using the toolkit such as, notes, email conversations, recordings and photos of a brainstorming session. This way you keep all your collected information organized in one place.

Stakeholders - a module to identify, analyse and track stakeholders for consultation throughout the tailoring process.