

MOVE-IT Project

Physical activity promotion through digital solutions

Name

Studies

Understanding

01

Study I

Exploring pwID's PA levels and technology use behaviors

02

Study II

Caregivers' digital literacy and use of technologies for PA promotion

03

Study III

Co-design of motivational strategies and personalization elements in exergames

04

Study IV

Barriers and facilitators in the support of technologies for PA promotion and co-design of learning resources

People with ID

Professionals/Caregivers

Co-Design



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Study I

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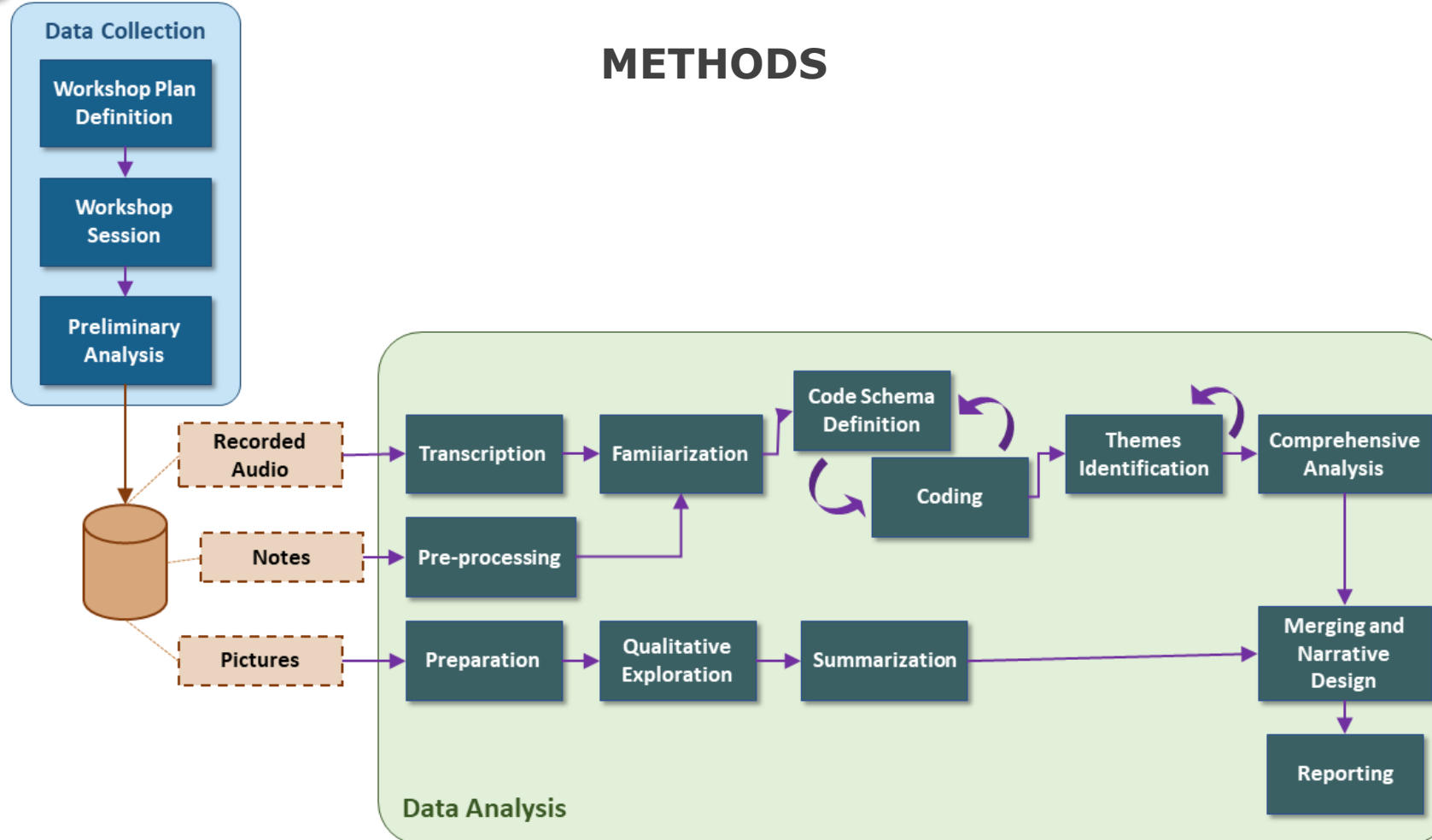
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Study III

03

Co-design of motivational strategies and personalization elements in exergames

METHODS



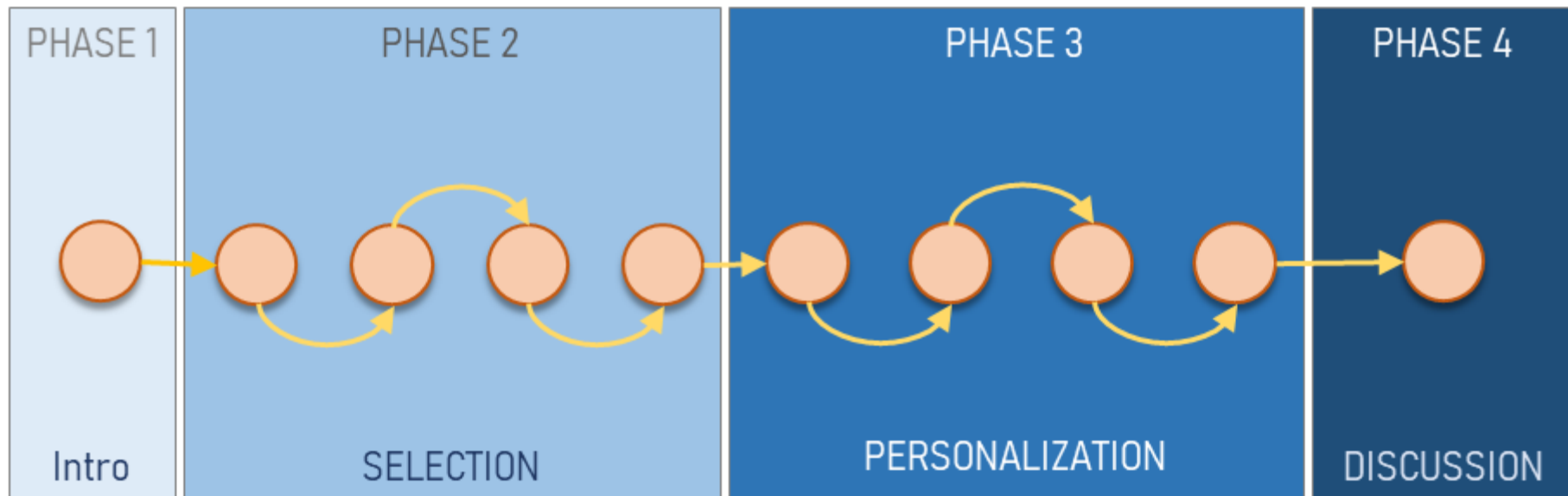
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Co-design of motivational strategies and personalization elements in exergames

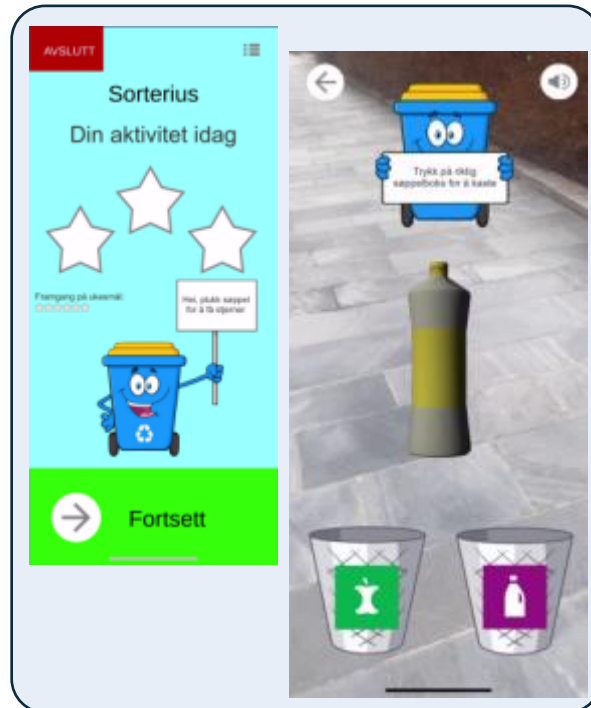
WORKSHOP STRUCTURE



Study III

03 Co-design of motivational strategies and personalization elements in exergames

WORKSHOP ACTIVITIES - SELECTION

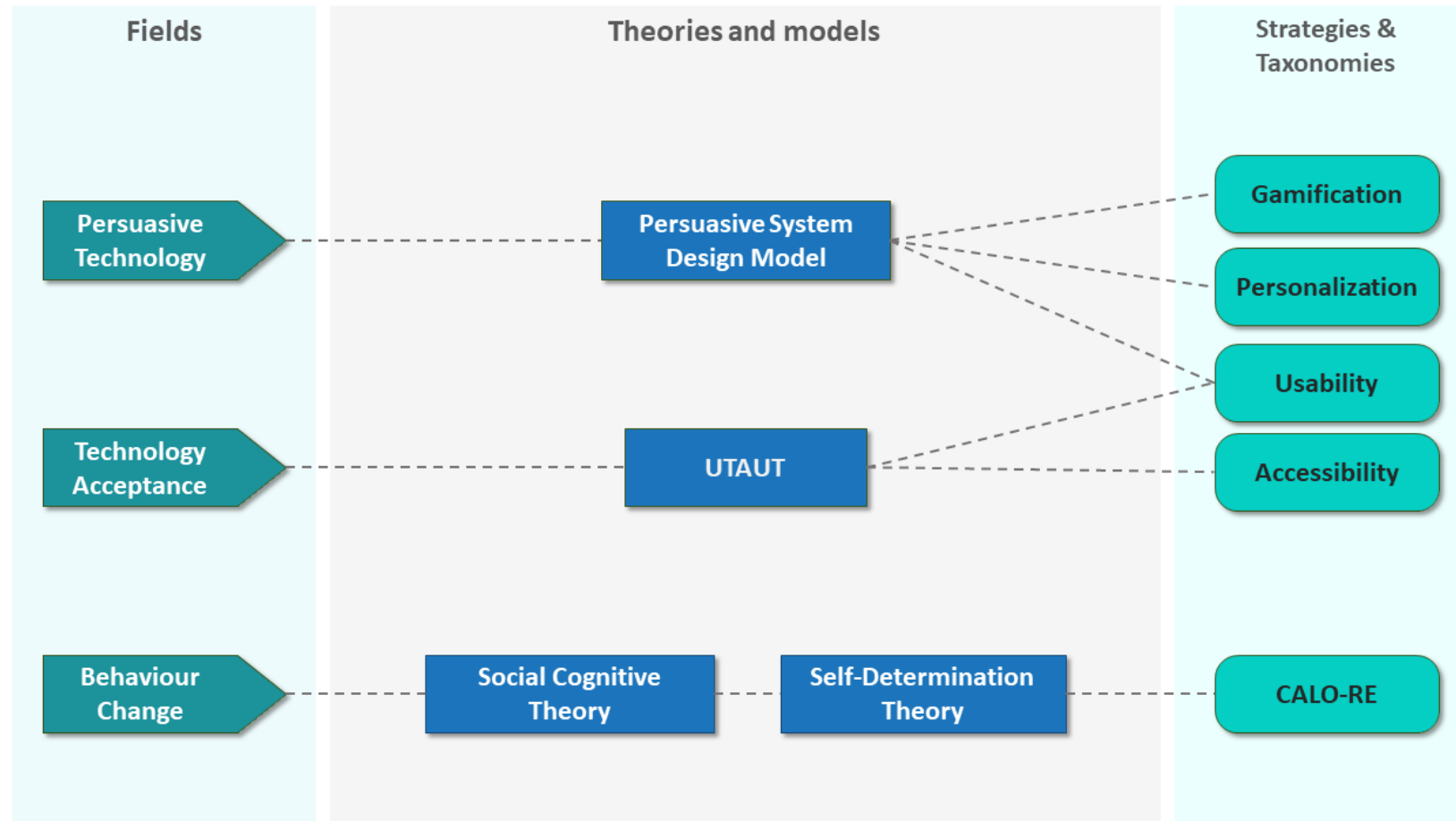


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WORKSHOP ACTIVITIES - PERSONALIZATION



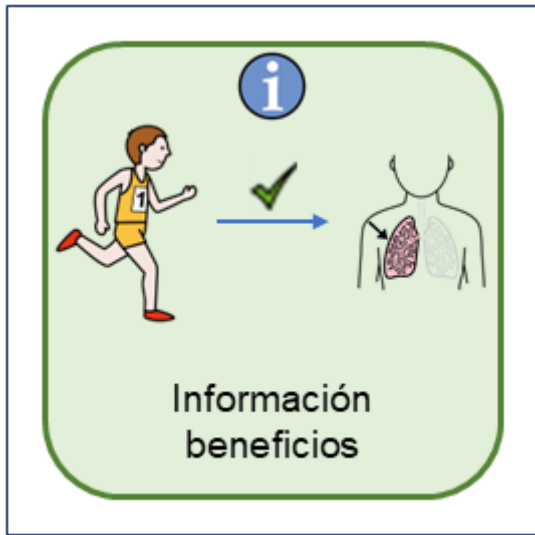
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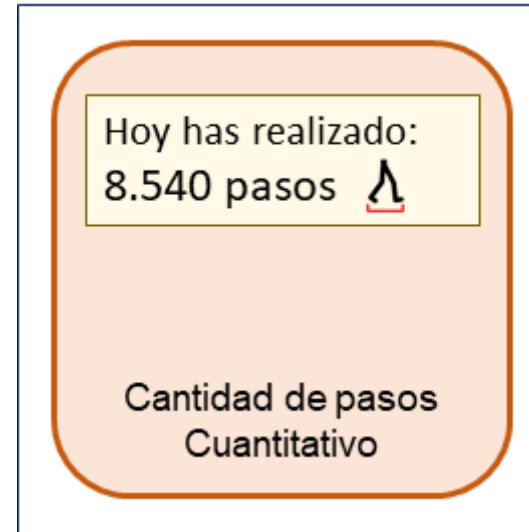
WORKSHOP ACTIVITIES - PERSONALIZATION



Behavioral Change



Gamification



Personalization

General



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WORKSHOP ACTIVITIES - PERSONALIZATION



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WORKSHOP ACTIVITIES - DISCUSSION



Feedback on workshop plan



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Co-design of motivational strategies and personalization elements in exergames

WORKSHOP SESSIONS IN NUMBERS

4

Workshop sessions

+4

Hours of audio-recordings

12

Adults with ID (8 mild & 4 moderate)

59

Comments

142

Pictures (Data)

4

Moderators

27

Codes

4

Professionals

10

Subthemes

3

Themes



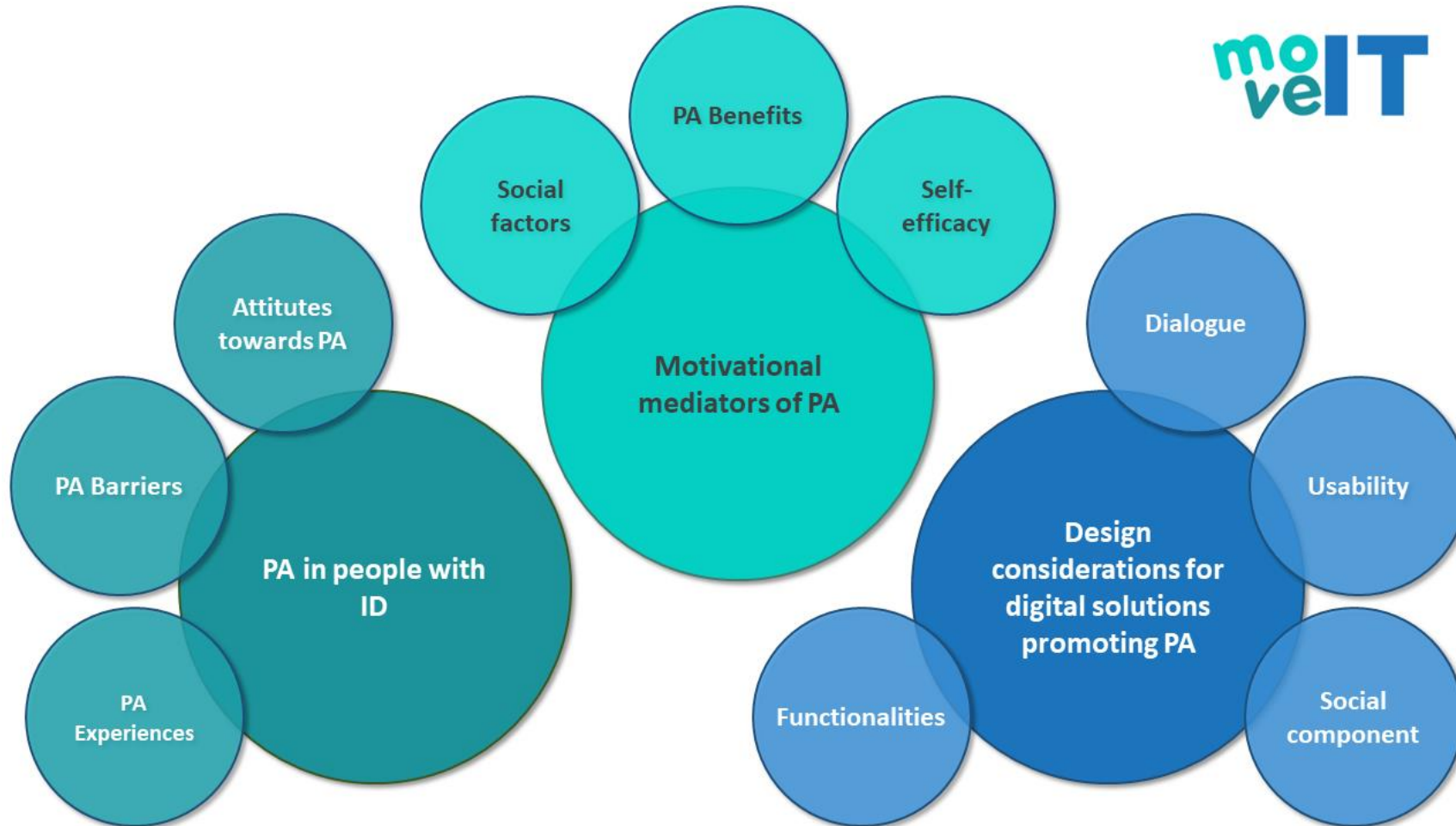
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WORKSHOP RESULTS



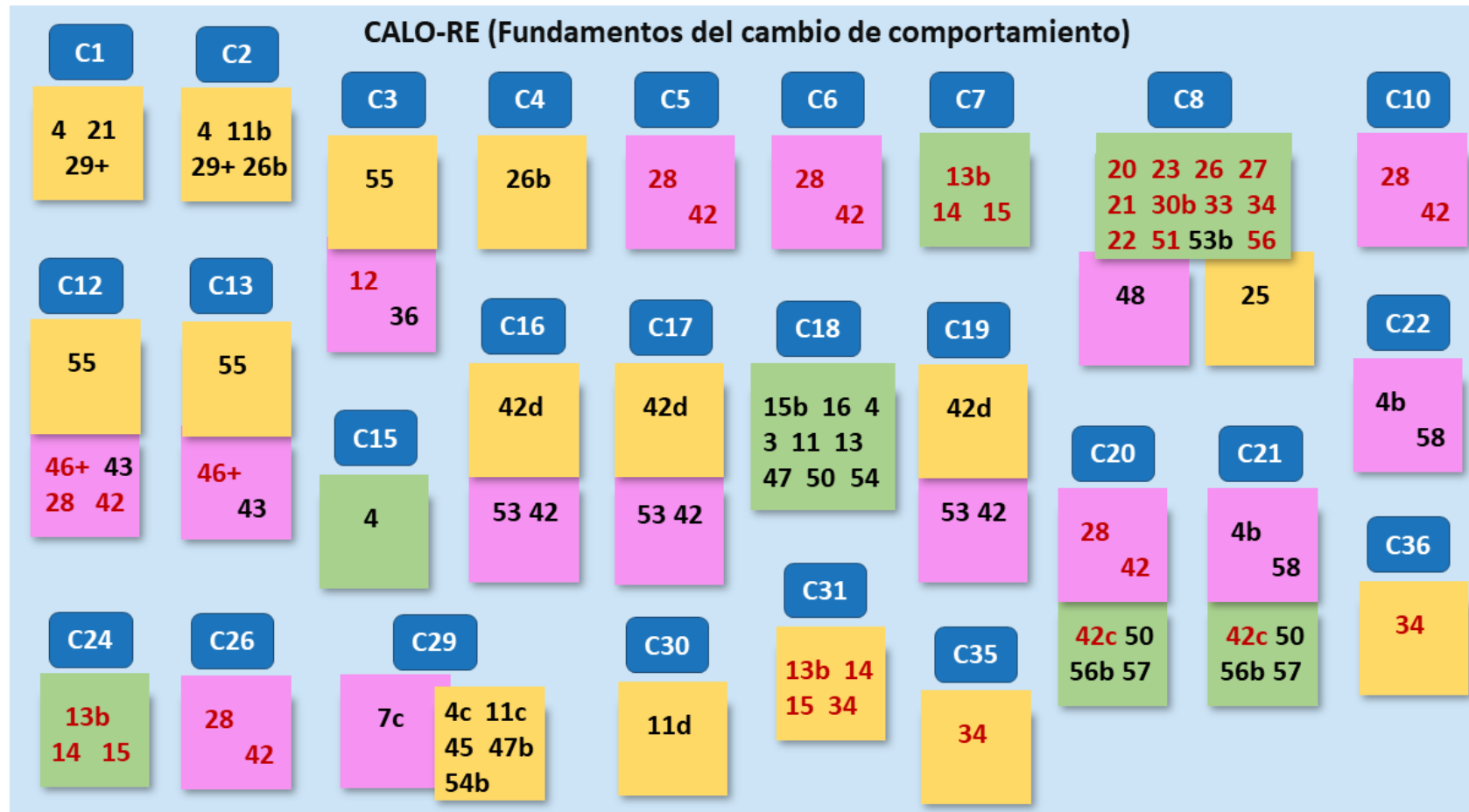
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WORKSHOP RESULTS



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Co-design of motivational strategies and personalization elements in exergames

WORKSHOP RESULTS

UTAUT (Aceptación de tecnología)

Effort
Expectancy

1 6 9b
10 40
5

Performance
Expectancy

38 48

Social
Influence

5 7c
59

Behavioral
Intention

44 46

Experience

7 8 9 17
29 30 42
49 52 53
58 59



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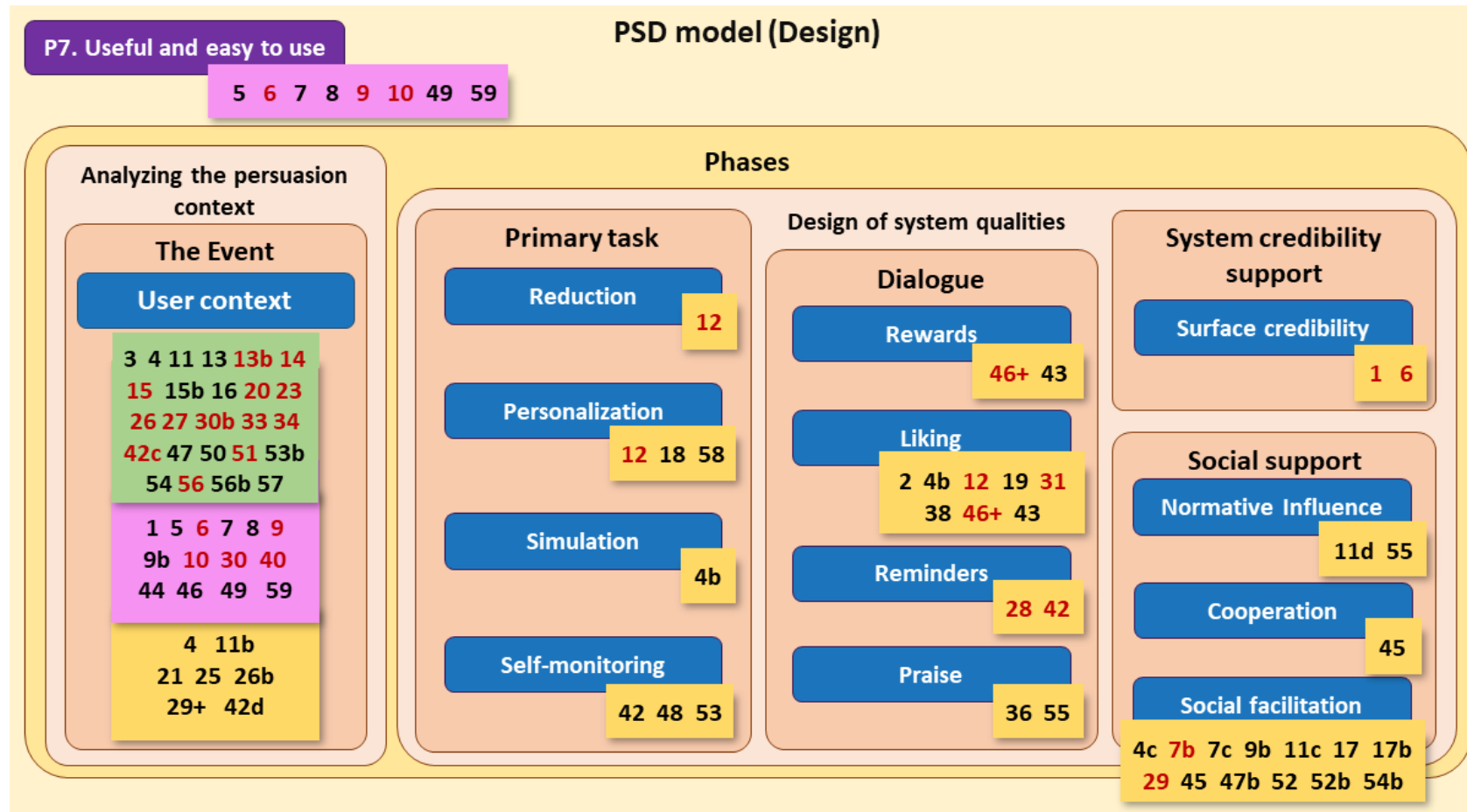
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WORKSHOP RESULTS



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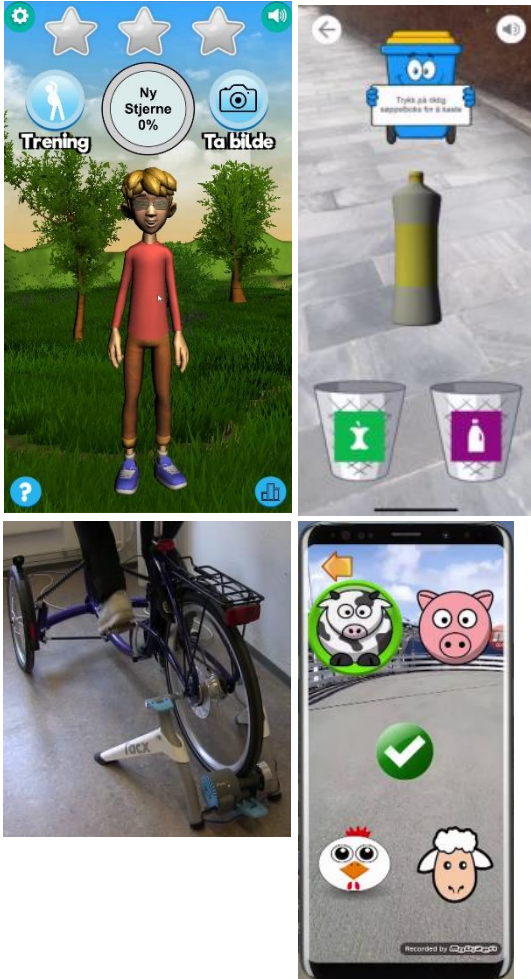
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Co-design of motivational strategies and personalization elements in exergames

WORKSHOP RESULTS – SUMMARY OF MAIN FINDINGS

- All digital solutions were selected
- Digital solutions promoting outdoor PA were preferred
- Participants liked avatars and themes



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Co-design of motivational strategies and personalization elements in exergames

WORKSHOP RESULTS – SUMMARY OF MAIN FINDINGS

- Positive attitude towards to PA
- Previous experiences and habits
- Instructions on how to perform PA could be not welcomed (just for complex tasks or limitation)

**PA in people
with ID**



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WORKSHOP RESULTS – SUMMARY OF MAIN FINDINGS

PA in people
with ID

- Barriers:
 - Physical limitations
 - Cognitive limitations (understanding PA)
 - Age
 - Lack of motivation
 - Treatments
 - Weather conditions (heat)



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WORKSHOP RESULTS – SUMMARY OF MAIN FINDINGS

**Motivational
mediators of
PA**

- Knowledge about PA benefits (weight management and corporal image)
- Relationship with healthy eating behavior
- Digital solutions promoting outdoor PA were preferred



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WORKSHOP RESULTS – SUMMARY OF MAIN FINDINGS

**Motivational
mediators of
PA**

- Self-efficacy:
 - Self-monitoring
 - Motivation
 - Temporal planification
 - Understanding PA tasks (effort management)
 - Doubt resolution
- Social support



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**Design
considerations
for digital
solutions
promoting PA**

WORKSHOP RESULTS – SUMMARY OF MAIN FINDINGS

- PwID without experience using mobile technologies reported more difficulties to use digital solutions
- Difficulties
 - Screen navigation
 - Perceive and understand the meaning of visual elements
 - App configuration (complex task requiring support)
 - Time management (accessibility)
- No problems
 - Basic tasks
 - Audio elements (preference)



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WORKSHOP RESULTS – SUMMARY OF MAIN FINDINGS

**Design
considerations
for digital
solutions
promoting PA**

- Functionalities:
 - Time management (complex)
 - PA monitoring
 - Activity history
 - Motivational messages
 - Adaptation (activity difficulty)
 - Instructions (mixed opinions)
 - Environment preparation
 - Emotion management



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Co-design of motivational strategies and personalization elements in exergames

WORKSHOP RESULTS – SUMMARY OF MAIN FINDINGS

Design
considerations
for digital
solutions
promoting PA

- Dialog and visual design:
 - Reminders (optional)
 - Positive reinforcements (points)
 - Leaderboards (real users)
 - Challenges (sorted by difficulty, rejection, and adapted)
- Social components
 - Support
 - Comparisons (mixed reactions)
 - Social events information



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Co-design of motivational strategies and personalization elements in exergames

RECOMMENDATIONS

- Usability and accessibility
 - Early testing
 - Simplify graphical user interfaces
 - Reduce number of visual elements
 - Avoid to distractions
 - Highlight interactive elements
- Training
 - Support for app installation and basic tasks
 - Initial training sessions
- Configuration
- Time management
 - Support on basic time management (optional)
 - Support on PA planification
 - Reminders (if included, option to disable them)
- Effort management
 - Reduce number of activities requiring different effort levels
 - Adapt difficulty to each individual



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RECOMMENDATIONS

- Social component
 - Information about PA events
 - Leaderboards (optional)
 - Collaborative activities
- Contents
 - Adapted information
 - No repetitive information
 - Environment preparation (optional)
 - Motivational messages
 - Audible
- Self-monitoring
- Progress toward the objective
- Activity history
- Rewards (points)
- Adapted challenges (sorted by difficulty and “rejectable”)
- Information about PA benefits
- Emotional management (if possible)



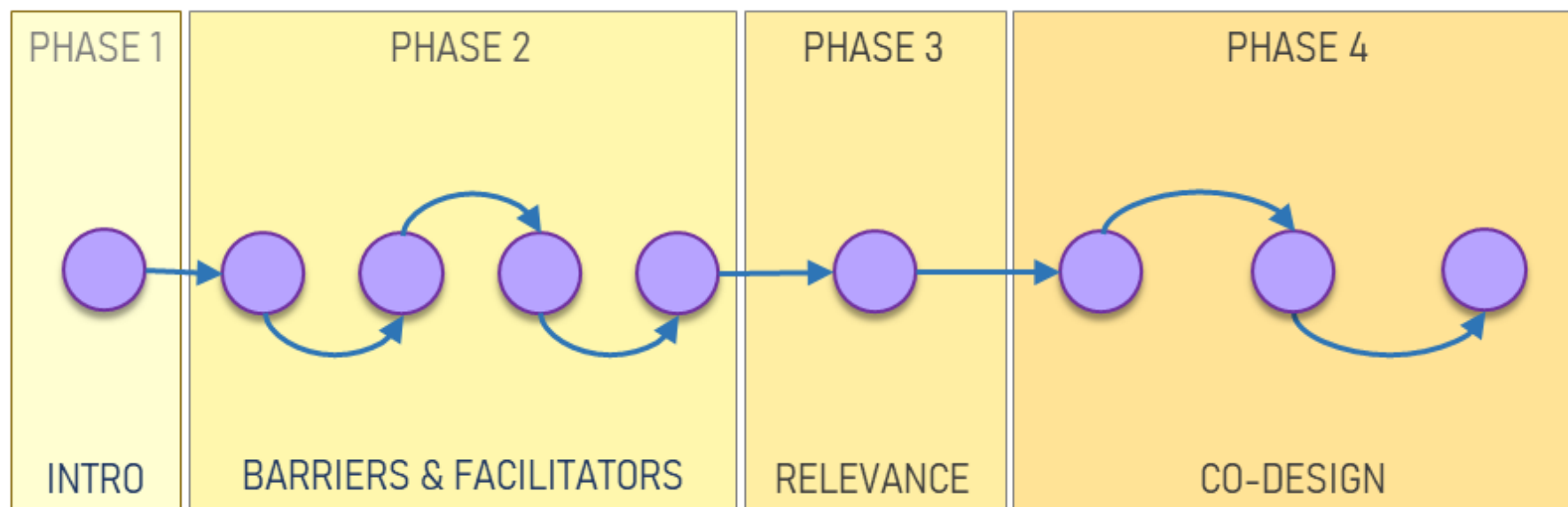
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Study IV

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Barriers and facilitators in the support of technologies for PA promotion and co-design of learning resources

WORKSHOP STRUCTURE



Study IV

04 Barriers and facilitators in the support of technologies for PA promotion and co-design of learning resources

WORKSHOP ACTIVITIES – BARRIERS & FACILITATORS



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04 Barriers and facilitators in the support of technologies for PA promotion and co-design of learning resources

WORKSHOP ACTIVITIES – CLASSIFICATION & RELEVANCE



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Barriers and facilitators in the support of technologies for PA promotion and co-design of learning resources

WORKSHOP ACTIVITIES – Co-Design (I) (Recommendation)



Actividad: Recomendando una app para promover la actividad física

Sesión:
Centro:
Equipo:

¿Qué te haría recomendar la app a una persona con discapacidad intelectual?

- Fácil, intuitiva
- Que tenga utilidad para el usuario
- Que cubra una necesidad
- Que sea una aplicación "activa"
- Que no sea repetitiva, que sea dinámica y divertida
- Que sea más fácil que una obligación

Actividad: Recomendando una app para promover la actividad física

Sesión:
Centro:
Equipo:

¿Qué te gustaría saber de la app?

1. Puntos de interés?
2. Cuánto tiempo se necesita para hacerla?
3. Contenido
4. Interacción
5. Configuración de la persona usuaria, a su perfil
6. Datos por día para cada usuario
7. Gráficos
8. ¿Se puede el progreso?
9. ¿Recomendaciones?
10. Disponibilidad en varias dispositivos
11. Diferentes niveles
12. Qué tan fácil es usar

Actividad: Recomendando una app para promover la actividad física

Sesión:
Centro:
Equipo:

¿Qué te haría recomendar la app a un compañero?

- EXPERIENCIA DE USO
- LOGROS COMPLETADOS
- INTERFAZ DE PANTALLA
- AYUDARÍA MUCHA DENTRO DE LAS POSIBILIDADES



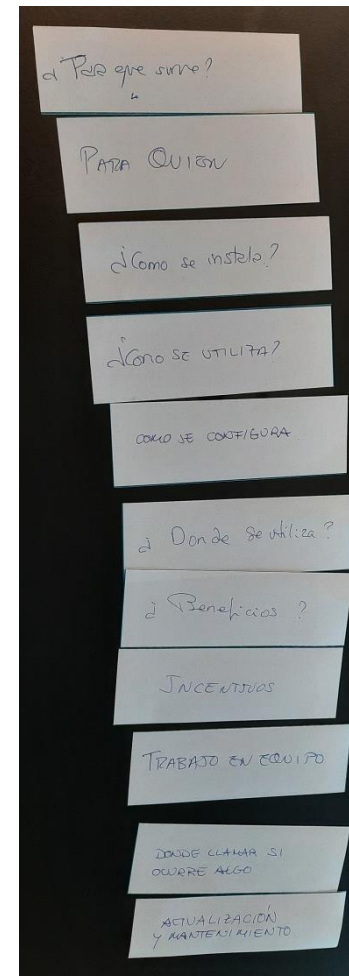
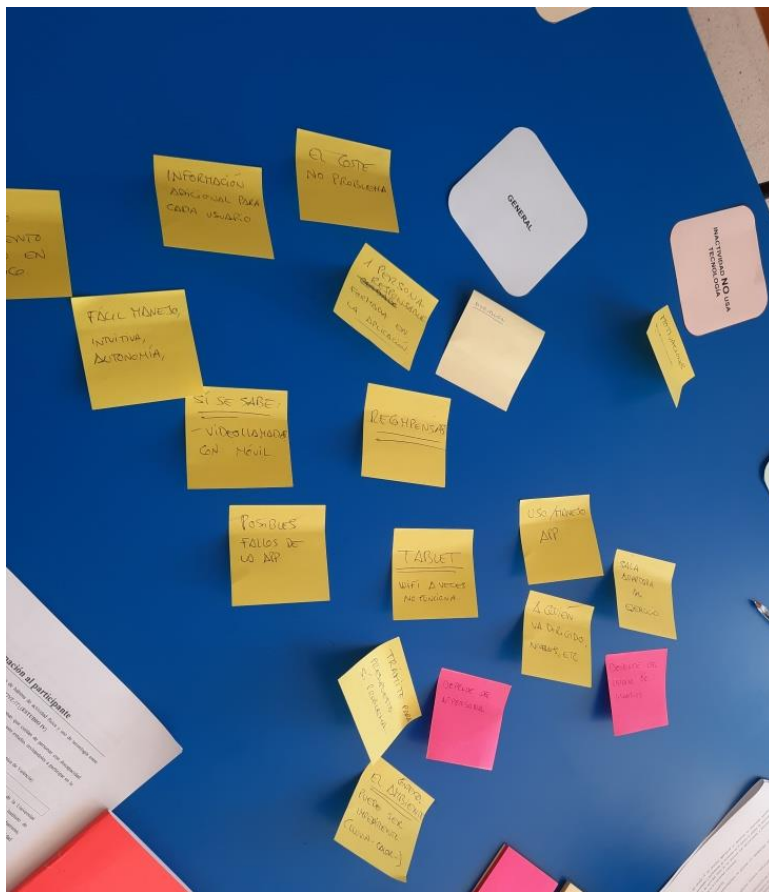
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Barriers and facilitators in the support of technologies for PA promotion and co-design of learning resources

WORKSHOP ACTIVITIES – Co-Design (II) (Learning Content)



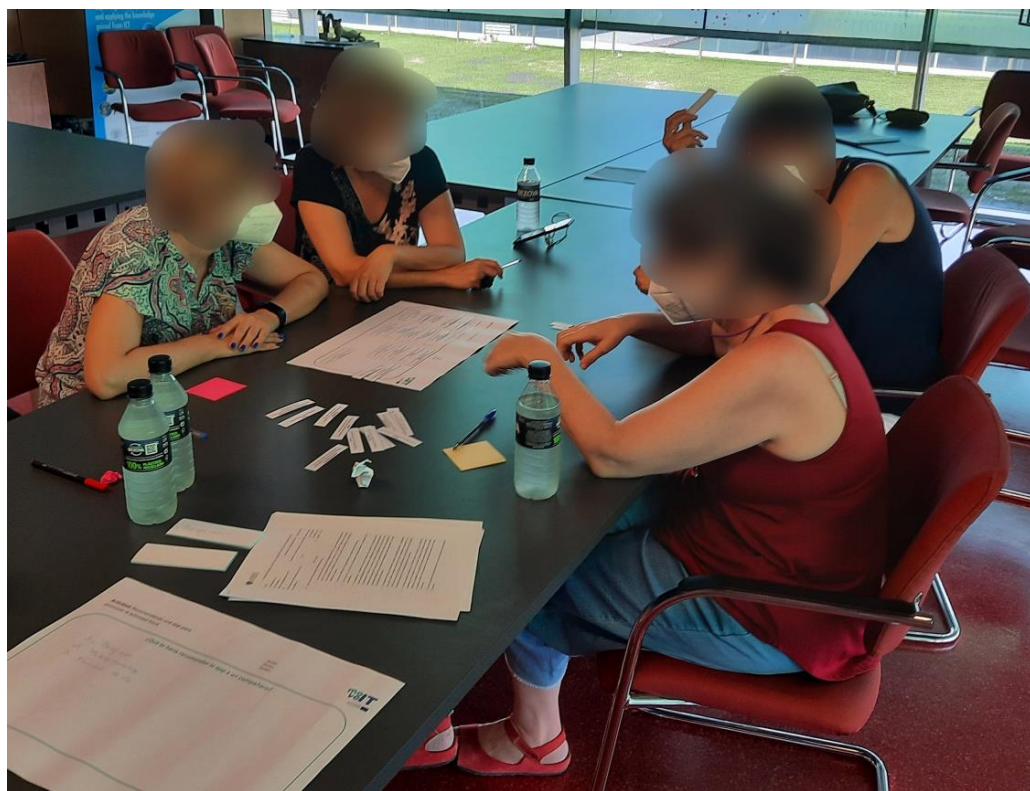
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Barriers and facilitators in the support of technologies for PA promotion and co-design of learning resources

WORKSHOP ACTIVITIES – Co-Design (III) (Educational resource)



Actividad: Diseñando materiales didácticos

Sesión:
Centro:
Equipo:

Presentado por PeDI - demostración

Idioma Permitir seleccionar el idioma del audio y/o subtítulos	Descripción del contenido ¿De qué trata? (curso, bloque, tema, etc.)	Archivo descargable Archivo con contenido explicado en el tema	Recompensas virtuales Iconos (medallas, estrellas, etc.) conseguidos por finalizar bloques
Elementos de navegación Botones para moverse entre contenidos (siguiente tema, tema anterior, inicio, bloques...)	Índice de contenidos Listado de bloques, temas, actividades, etc.	Actividades Conjunto de ejercicios de apoyo al aprendizaje	Puntos Recompensa por finalizar tema o actividad
Descripción del contenido ¿A quién va dirigido? (curso, bloque, tema, etc.)	Descripción del contenido ¿Qué aprenderás? (curso, bloque, tema, etc.)	Progreso del curso Información sobre nuestro avance en los contenidos	
Niveles Bloques temáticos bloqueados hasta finalizar bloques anteriores	Video del tema Explicación del tema	Enlaces A otros sitios con información interesante relacionada con el tema	
Subtítulos Ofrecer la posibilidad de activar o desactivar los subtítulos del video	Estado del tema Indicación si el usuario ha visitado o no el tema, si lo ha completado, si es nuevo, etc.	Lista de conclusiones del tema Listado de puntos resumen de los aspectos más relevantes tratados en el tema	
	Duración Información sobre la duración del contenido (curso, bloque, tema, etc.)	Autoevaluación Cuestionario para comprobar nuestro aprendizaje sobre el tema	

lenguaje de signos



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Barriers and facilitators in the support of technologies for PA promotion and co-design of learning resources

WORKSHOP SESSIONS IN NUMBERS

3

Workshop sessions

14

Professionals

2

Moderators

+3,5

Hours of audio-recordings

66

Comments (Posits)

13

Classes (Barriers & Facilitators)

56

Recommendation items

27

Items (Info needs)

44

Components (co-design)



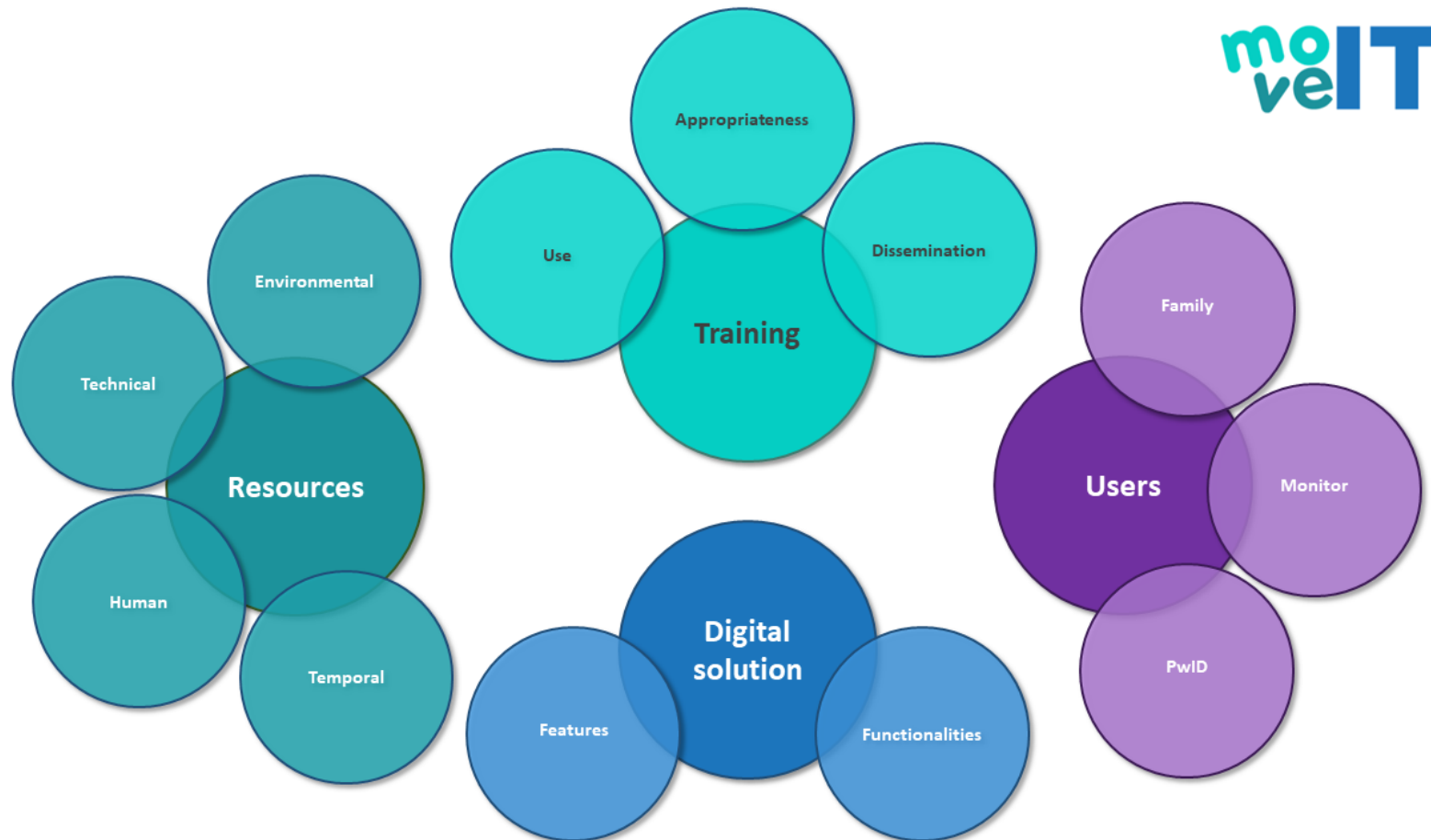
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WORKSHOP RESULTS – BARRIERS & FACILITATORS



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moveIT



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Barriers and facilitators in the support of technologies for PA promotion and co-design of learning resources



Resources

WORKSHOP RESULTS – BARRIERS & FACILITATORS

- Environmental:
 - Adapted PA rooms
- Technical:
 - Internet connection
 - Devices
 - Device fragility
 - Other technical resources
- Temporal:
 - Lack of time for supporting users with PA activities and use of the digital solution



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Barriers and facilitators in the support of technologies for PA promotion and co-design of learning resources



Resources

WORKSHOP RESULTS – BARRIERS & FACILITATORS

- Human:
 - Responsible for the new “service” in each center
 - Knowledge in the use of the digital solution
 - Person with experience in PA
 - Staff needed to integrate the new “service” in the center
 - Person with technical background (computer science)
 - Responsible for the devices (charge, maintenance, etc.)
 - Technical support



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A brown hexagon with a thin gold border.

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Barriers and facilitators in the support of technologies for PA promotion and co-design of learning resources

A teal circle with a thin gold border.

Training

WORKSHOP RESULTS – BARRIERS & FACILITATORS

- Use of digital solution
 - Setting and configuration
- Potential users (intended for)
- Appropriateness of digital solution for each individual
- Why this digital solution? (alternatives)
- Basic information about the digital solution
- How to promote the use of the digital solution among users?
- Benefits of the use of the digital solution



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Barriers and facilitators in the support of technologies for PA promotion and co-design of learning resources

**Digital
solution**

WORKSHOP RESULTS – BARRIERS & FACILITATORS

- Features:
 - Cost
 - Errors
 - Technical issues
 - Support
 - Tolerance to errors
 - Usability
 - Ease to use
 - Autonomous use
 - Intuitive
- Features:
 - Personalization
 - Preferences
 - Needs
 - Adaptation
 - Individual's skills
 - Individual's capacities



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Digital
solution

WORKSHOP RESULTS – BARRIERS & FACILITATORS

- Functionalities:
 - Social
 - Communication (Video calls)
 - Promoting social activities
 - Context-awareness
 - Outdoor activities (weather conditions)
 - Rewards and reinforcements
 - Challenges
 - Adherence and engagement
 - Carefully designed (no too much)
 - Information
 - Benefits of PA
 - Audio
 - No advertising



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Barriers and facilitators in the support of technologies for PA promotion and co-design of learning resources



Users

WORKSHOP RESULTS – BARRIERS & FACILITATORS

- Motivation (user and supporting people)
 - Use of digital solution
 - Being physically active
- Family makes decisions
 - Overprotection
 - Monitoring the use of technology
- Digital divide
- Fatigue



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Barriers and facilitators in the support of technologies for PA promotion and co-design of learning resources

What do you want to know about the digital solution?

WORKSHOP RESULTS – Co-Design (I)

- How to use (usability)
- Requirements
 - For users
 - For institution
- Targeted population
- Number of potential users
 - Profiles/devices
- Benefits of the use
- Language (accessibility)
- Frequency of use
- How to install it
- How to configure it to each individual
- Support (user errors and bugs)
- Content
 - Activities (main tasks and challenges)
- Rewards
- Levels of difficulty
 - Automatic change of levels
- Feedback
 - Progress
- Avatar



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Barriers and facilitators in the support of technologies for PA promotion and co-design of learning resources

WORKSHOP RESULTS – Co-Design (I)

**What would
make you
recommend the
app to a
colleague?**

- Benefits
 - Health outcomes
 - Improved healthy eating behavior
- Integration with other workshops
- Autonomous use (reduced support)
- Acceptance (center/institution)
- Allows to spend more time with more dependent people
- Innovative service
- Ease to use and intuitive
- User experience



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Barriers and facilitators in the support of technologies for PA promotion and co-design of learning resources

WORKSHOP RESULTS – Co-Design (I)

**What would
make you
recommend the
app to user?**

- Ease to use
- Benefits
 - Meeting their needs
- Breaking monotony
- Rewards and positive feedback
- User experience Attractive app
 - Motivation, appearance, ...
 - Fun (dynamics, challenges,...)



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Barriers and facilitators in the support of technologies for PA promotion and co-design of learning resources

WORKSHOP RESULTS – LEARNING CONTENTS

- Targeted users [A, C]
- Objective [A, C]
- Collaborative work [A]
- Benefits [A, B]
- Configuration [A, C]
 - Adapt to each individual [C]
- How to use it [A, B, C]
 - Tutorial or use case [B, C]
 - Login/password (several users) [B]
 - Use time recommendation [C]
- Rewards [A]
- How to install it [A, C]
- Technical support [A, B, C]
- Update and maintenance [A]
- Where to use it [A]
- Levels (difficulty, progress, ...) [B]
- Activities (different types, ...) [B]



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Barriers and facilitators in the support of technologies for PA promotion and co-design of learning resources

RECOMMENDATIONS

- Deep understanding of the barriers in each institution
- Define clearly targeted population
 - PA considerations
- Define clearly the objectives and types of physical activities
- Define requirements (especially technical ones)
- Define the potential benefits of the use
 - Health outcomes
- Foundations and scientific evidence
- Training resources
 - Tutorial
 - Installation, configuration, and use
 - Use cases
 - New service delivery
 - Example of intervention
 - How to motivate users
 - Technical issues
 - How to contact with technical support
 - FAQs



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Thanks!

Any questions?

