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Platform for Ergonomic and motivating,  
ICT-based Age-friendly woRkpLaces

**Document Identification**

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## Abbreviations

<i>Abbrev.</i>	<i>Description</i>
AAL	Ambient Assisted Living
AAL JP	Ambient Assisted Living Joint Programme
DSS	Decision Support System
ICT	Information and Communication Technology
RFID	Radio Frequency Identification

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## Executive Summary

This deliverable presents the foundational ontology models of PEARL that serve as formal abstraction of the attributes of typical attributes of users, workspace and tasks. These models are necessary for adapting the PEARL platform to the individual needs of each user. We need three types of models to achieve high flexibility within the adaptation process: (1) a workspace model with a focus on the three trial sites, (2) knowledge workers' attributes and preferences (user models), as well as (3) the main tasks of the users (task model). Based on these three models concrete instantiations based on individual attributes and needs of knowledge workers have been created exemplarily. The individual instantiations are the necessary input for the Decision Support System and map user, workspace and task attributes with the goal to suggest a PEARL setup for new users that matches their preferences as close as possible.

# 1 About this Document

## 1.1 Role of the deliverable

This deliverable provides the documentation of the foundational modelling necessary for the adaptation processes in PEARL. It describes the PEARL user model which is based on exemplary users from the requirements analysis as well as the possible workplace and the task models.

## 1.2 Relationship to other PEARL deliverables

The deliverable is related to the following PEARL deliverables:

<i>Deliv:</i>	<i>Relation</i>
D2.1	Report on Users' and Stakeholders' Requirements: This deliverables describes the process and the results of the requirements analysis. This was the basic input for the modelling process.
D2.2	Use Cases, Scenarios and Integrated Functionalities: This deliverable presents integrated scenarios and use cases and describes the functional specifications of the PEARL applications.
D4.3.1	Programmable Interfaces and Configuration Management Tools: This deliverable is the implementation of the programmable interfaces and the configuration management tools of the PEARL platform.
D4.4.1	Decision Support System and Rule Engines 1: This deliverable comprises the tools, techniques and processes necessary to facilitate the semi-automated mapping of workspace models to deployment configurations of the PEARL platform.

## 2 Introduction

In order to allow the adaptation of the PEARL modules to the individual needs of older knowledge workers a formal abstraction of these workers' attributes is required. Therefore, we need to set up and develop formal and flexible ontology models. For the purposes of PEARL, we need three types of models to achieve high flexibility within the adaptation process: (1) a workspace model with a focus on the three trial sites, (2) knowledge workers' attributes and preferences (user models), as well as (3) the main tasks of the users (task model). These models consist of various categories that are described with the help of dimensions and associated characteristics (see section 0). The chapters 3 User Model, 4 Workspace Model, and 5 Task Model present the created model ontologies.

The three model ontologies are part of the PEARL Data Layer (see PEARL Architecture in D4.1). Apart from the model ontologies, the PEARL Data Layer also hosts the corresponding user management mechanisms, the user configuration plans, the training courses, and the serious games that will be delivered through the platform. The Data Layer constitutes the core layer through which the information exchange between the various layers and modules will take place.

The development of the workspace and task models was based on the findings from the requirements analysis and was conducted by UX experts. For the workspace model, we analysed the video and photo material with the aim to formally describe typical dimensions and their characteristics. For the task model, we went through the transcribed context interviews and observations protocols again (see D2.1) and extracted the tasks and activities that were mentioned or presented by the participants. For the user model we adapted the "User Context Model" which was used in the AALuis project (AAL-2010-3-070) described in the AALuis deliverable D3.2 User Interface Specification. The purpose of this model was to formalize the context formed by user attributes. The AALuis target group were older adults after the retirement. Because of this brought scope the according user context model was already comprehensive and could be reused. For the purpose of PEARL, we only needed to add a category about occupation and skills.

Based on the three models concrete instantiations based on individual attributes and needs of knowledge workers have been created exemplarily (two per each test site in the Netherlands, Romania and Switzerland). The individual instantiations are the necessary input for the Decision Support System and map user, workspace and task attributes with the goal to suggest a PEARL setup for new users that matches their preferences as close as possible. The mapping and the matching are described in the accordant deliverable D4.4.1 Decision Support System and Rule Engines 1. An example instantiation can be found in the Appendix A.

At this point, we want to explicitly stress that the described models make no claim to contain all relevant attributes. However, they demonstrate exemplarily how the adaptation is initiated within PEARL.

## 2.1 Structure of the models

The three models are presented with the help of a common structure depicted in a table format. Each model consists of various *Categories* that are described with the help of *Dimensions* and *Characteristics*. Furthermore, we name the *associated data base tables* that are introduced in D4.6.1. The structure is as follows:

### X.X Category

Dimension	Characteristics	Associated data base tables
Dimension 1	Characteristic 1, ..., Characteristic n	Associated data base table 1 Associated data base table 2
Dimension 2	Characteristic 1, ..., Characteristic n	Associated data base table 1 Associated data base table 2
...	...	...



### 3 User Model

This chapter presents the dimensions and possible characteristics of a user within PEARL. The more information about a user is provided the better the adaptation of the PEARL platform can work to take the individual needs into account.

#### 3.1 Demographics

...

Dimension	Characteristics	Associated data base tables
Year of birth	1940, ..., 2000	User profile DSSUserModel
Sex	Female, male	User profile (Attribute: Gender) DSSUserModel
Preferred language	Dutch, English, French, Romanian	Locality LocalityAvailableValues

#### 3.2 Physical Characteristics

...

Dimension	Characteristics	Associated data base tables
Height	50, ..., 250	User profile DSSUserModel
Weight	30, ..., 300	User profile DSSUserModel
Lower back pain	none, medium, severe	Condition ConditionAvailableValue DSSUserModel
Neck/shoulders pain	none, medium, severe	Condition ConditionAvailableValue DSSUserModel
Arthritis in hands	none, medium, severe	Condition ConditionAvailableValue DSSUserModel

Lung problems	none, medium, severe	Condition ConditionAvailableValue DSSUserModel
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Bodily flexibility	high, medium, low	Condition ConditionAvailableValue DSSUserModel
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### 3.3 Occupation and Competences

...

Dimension	Characteristics	Associated data base tables
Test site	CH, NL, RO	Locality LocalityAvailableValues DSSUserModel
Job position	...	User profile DSSUserModel
Years employed	0, ..., 50	User profile DSSUserModel

### 3.4 Underlying Skills

...

Dimension	Characteristics	Associated data base tables
ICT literacy	very bad, bad, medium, good, very good	Competences Competences AvailableValues DSSUserModel
ICT anxiousness	very high, high, medium, low, very low	Competences Competences AvailableValues DSSUserModel

### 3.5 Perceptual

...

Dimension	Characteristics	Associated data base tables
Visual acuity and sensitivity	very bad, bad, medium, good, very good	Competences Competences AvailableValues DSSUserModel
Colour perception	very bad, bad, medium, good, very good	Competences Competences AvailableValues DSSUserModel
Field of vision	very bad, bad, medium, good, very good	Competences Competences AvailableValues DSSUserModel
Hearing ability	very bad, bad, medium, good, very good	Competences Competences AvailableValues DSSUserModel

### 3.6 Cognitive

...

Dimension	Characteristics	Associated data base tables
Language Reception	very bad, bad, medium, good, very good	Competences Competences AvailableValues DSSUserModel
Language Production	very bad, bad, medium, good, very good	Competences Competences AvailableValues DSSUserModel
Understanding abstract signs	very bad, bad, medium, good, very good	Competences Competences AvailableValues DSSUserModel
Attention	very bad, bad, medium, good, very good	Competences Competences AvailableValues DSSUserModel

### 3.7 Information Processing

...

Dimension	Characteristics	Associated data base tables
Processing speed	very bad, bad, medium, good, very good	Competences Competences AvailableValues DSSUserModel
Working memory	very bad, bad, medium, good, very good	Competences Competences AvailableValues DSSUserModel
Long-term memory	very bad, bad, medium, good, very good	Competences Competences AvailableValues DSSUserModel
Hand-eye coordination	very bad, bad, medium, good, very good	Competences Competences AvailableValues DSSUserModel

## 4 Workspace Model

This chapter presents how the physical and virtual workspace of a user is modelled within the PEARL platform. While a user is mostly a static instantiation of the user model, the workspace attributes can change over time, e.g. if a colleague is present in the same room at the same time or not.

### 4.1 Room

...

Dimension	Characteristics	Associated data base tables
Size	small, medium, big	WorkspaceEntitiesCharacteristics WorkspaceEntityAvailableValues
Present colleagues	0, 1, >1	WorkspaceEntitiesCharacteristics WorkspaceEntityAvailableValues
Noise level	silent, normal, loud	WorkspaceEntitiesCharacteristics WorkspaceEntityAvailableValues
Artificial light:		
Ceiling	0, 1	WorkspaceEntitiesCharacteristics WorkspaceEntityAvailableValues
Table light	0, 1	WorkspaceEntitiesCharacteristics WorkspaceEntityAvailableValues
Number of desks	0, ..., 150	WorkspaceEntitiesCharacteristics WorkspaceEntityAvailableValues
Number of chairs	0, ... 150	WorkspaceEntitiesCharacteristics WorkspaceEntityAvailableValues

### 4.2 Hardware

...

Dimension	Characteristics	Associated data base tables
Availability Indicator:	0, 1	WorkspaceEntitiesCharacteristics WorkspaceEntityAvailableValues
Availability	0, 1, 2	
Internet:	0, 1	WorkspaceEntitiesCharacteristics

Bandwidth	slow, medium, fast	WorkspaceEntityAvailableValues
External Monitor:	0, 1	WorkspaceEntitiesCharacteristics
Touch	0, 1	WorkspaceEntityAvailableValues
....Screen Size	low, normal, high	
Speakers:	0, 1	WorkspaceEntitiesCharacteristics
Type	headset, headphones, loudspeakers	WorkspaceEntityAvailableValues
RFID reader	0, 1	WorkspaceEntitiesCharacteristics WorkspaceEntityAvailableValues
Mouse	0, 1	WorkspaceEntitiesCharacteristics WorkspaceEntityAvailableValues
Touchpad	0, 1	WorkspaceEntitiesCharacteristics WorkspaceEntityAvailableValues
Microphone	0, 1	WorkspaceEntitiesCharacteristics WorkspaceEntityAvailableValues
Webcam	0, 1	WorkspaceEntitiesCharacteristics WorkspaceEntityAvailableValues
Desk Phone	0, 1	WorkspaceEntitiesCharacteristics WorkspaceEntityAvailableValues

## 5 Task Model

This part models exemplarily what common tasks of older knowledge workers could be. Tasks can be distinguished in user, interaction and application tasks. A user task refers to a cognitive action, such as taking a decision, or acquiring information. An application task is an action that is performed by the system (e.g. displaying information, conducting automation mechanisms, creating groups). An interaction task involves an active interaction of the user with the application (e.g. selecting an element, browsing through a document). In this model we focus on the interaction tasks as they need to be mapped and supported by the PEARL user interfaces which can be adapted by the users themselves.

After specifying an instantiation of the user and workspace model the Decision Support System proposes a list of tasks based on a similar profile (see D4.4.1). The user will be able to add/modify task settings and change the workspace configurations if required.

In contrast to the user and workspace model the categories in the task model might not exist as not all tasks are relevant for all users. For this reason, dimensions and characteristics only matter when the category attribute is set to 1.

### 5.1 E-Mail (0, 1)

...

Dimension	Characteristics	Associated data base tables
Preferred e-mail client	Outlook, Thunderbird, Gmail,...	AvailableSW AvailableSWAvailableValues
Check emails	0, 1	TaskEntities UserTaskEntities
Prioritize emails	0, 1	TaskEntities UserTaskEntities
Sort emails	0, 1	TaskEntities UserTaskEntities
Reply to email	0, 1	TaskEntities UserTaskEntities
Write new email	0, 1	TaskEntities UserTaskEntities
Archive emails	0, 1	TaskEntities UserTaskEntities

## 5.2 Calendar (0, 1)

...

Dimension	Characteristics	Associated data base tables
Preferred Calendar App	Outlook Calendar, Achievo, Google calendar,...	AvailableSW AvailableSWAvailableValues
Open schedule	0, 1	TaskEntities UserTaskEntities
Create new appointment	0, 1	TaskEntities UserTaskEntities
Edit existing appointment	0, 1	TaskEntities UserTaskEntities
Delete appointment	0, 1	TaskEntities UserTaskEntities

## 5.3 Searching and Archiving Documents (0, 1)

...

Dimension	Characteristics	Associated data base tables
Preferred Search App	Windows Search, Windows Explorer, ...	AvailableSW AvailableSWAvailableValues
Search file	0, 1	TaskEntities UserTaskEntities
Archive/manage documents	0, 1	TaskEntities UserTaskEntities

## 5.4 Editing Text Documents (0, 1)

...

Dimension	Characteristics	Associated data base tables
Preferred text editor	Microsoft Word, ...	AvailableSW AvailableSWAvailableValues



Open text document	0, 1	TaskEntities UserTaskEntities
Edit text document	0, 1	TaskEntities UserTaskEntities
Create new text document	0, 1	TaskEntities UserTaskEntities

## 5.5 Editing Spreadsheets (0, 1)

...

Dimension	Characteristics	Associated data base tables
Preferred spreadsheet editor	Microsoft Excel, ...	AvailableSW AvailableSWAvailableValues
Open spreadsheet	0, 1	TaskEntities UserTaskEntities
Edit spreadsheet	0, 1	TaskEntities UserTaskEntities
Create new spreadsheet	0, 1	TaskEntities UserTaskEntities

## 5.6 Editing Presentations (0, 1)

...

Dimension	Characteristics	Associated data base tables
Preferred presentation editor	Microsoft Powerpoint, ...	AvailableSW AvailableSWAvailableValues
Open presentation	0, 1	TaskEntities UserTaskEntities
Edit presentation	0, 1	TaskEntities UserTaskEntities
Create new	0, 1	TaskEntities

presentation UserTaskEntities

## 5.7 Participating in Meetings (0, 1)

...

Dimension	Characteristics	Associated data base tables
Preferred communication messenger	Skype, Adobe Connect, ...	AvailableSW AvailableSWAvailableValues
Conference Calls	0, 1	TaskEntities UserTaskEntities
Face-to-face meetings	0, 1	TaskEntities UserTaskEntities

## 5.8 Browsing the Internet (0, 1)

...

Dimension	Characteristics	Associated data base tables
Preferred browser	Crome, Firefox, ...	AvailableSW AvailableSWAvailableValues
Search with search engine	0, 1	TaskEntities UserTaskEntities
Open new tab	0, 1	TaskEntities UserTaskEntities
Bookmark website	0, 1	TaskEntities UserTaskEntities
Edit bookmark	0, 1	TaskEntities UserTaskEntities

## 5.9 Doing research (0, 1)

...

Dimension	Characteristics	Associated data base tables
-----------	-----------------	-----------------------------

Preferred reader	Adobe Reader, Foxit Reader, ...	AvailableSW AvailableSWAvailableValues
Reading articles	0, 1	TaskEntities UserTaskEntities

## 5.10 Managing tasks (0, 1)

...

Dimension	Characteristics	Associated data base tables
Preferred task management application	Achievo, Outlook ToDo bar, ...	AvailableSW AvailableSWAvailableValues
View pending tasks	0, 1	TaskEntities UserTaskEntities
Add new task	0, 1	TaskEntities UserTaskEntities
Edit existing task	0, 1	TaskEntities UserTaskEntities
Complete finished task	0, 1	TaskEntities UserTaskEntities

## 5.11 Taking quick notes (0, 1)

...

Dimension	Characteristics	Associated data base tables
Preferred notes editor	Microsoft OneNote, ...	AvailableSW AvailableSWAvailableValues
Add note	0, 1	TaskEntities UserTaskEntities
Edit task	0, 1	TaskEntities UserTaskEntities
Delete note	0, 1	TaskEntities

## UserTaskEntities

**5.12E-Learning (0, 1)**

...

Dimension	Characteristics	Associated data base tables
Preferred e-learning tool	e-doceo, Moodle, ...	AvailableSW AvailableSWAvailableValues
Open instructional material	0, 1	TaskEntities UserTaskEntities
Define objectives for the learning process	0, 1	TaskEntities UserTaskEntities
Participate in knowledge tests	0, 1	TaskEntities UserTaskEntities
Communicate:	0, 1	
Contact the teacher	0, 1	TaskEntities UserTaskEntities
Write in discussion group	0, 1	TaskEntities UserTaskEntities
Read in discussion group	0, 1	TaskEntities UserTaskEntities
Coordinate:	0, 1	
Check learning agenda	0, 1	TaskEntities UserTaskEntities
Read news	0, 1	TaskEntities UserTaskEntities
Check results of knowledge test	0, 1	TaskEntities UserTaskEntities
Cooperate:	0, 1	
Check slides and bibliography	0, 1	TaskEntities UserTaskEntities
Record a	0, 1	TaskEntities

presentation UserTaskEntities

### 5.13 Cognitive Training (0, 1)

...

Dimension	Characteristics	Associated data base tables
Open cognitive training portal	0, 1	TaskEntities UserTaskEntities
Do cognitive training exercises	0, 1	TaskEntities UserTaskEntities

### 5.14 Physical Training (0, 1)

...

Dimension	Characteristics	Associated data base tables
Open physical training portal	0, 1	TaskEntities UserTaskEntities
Do physical training exercises	0, 1	TaskEntities UserTaskEntities

### 5.15 Organisation-specific tasks (0, 1)

...

Dimension	Characteristics	Associated data base tables
Open company's intranet portal	0, 1	TaskEntities UserTaskEntities
Open company's time registration portal	0, 1	TaskEntities UserTaskEntities

### 5.16 Travelling (0, 1)

...

Dimension	Characteristics	Associated data base tables
-----------	-----------------	-----------------------------

To other location 0, 1  
within the  
company

TaskEntities  
UserTaskEntities

---

To other location 0, 1  
outside the  
company

TaskEntities  
UserTaskEntities

## Appendix A Example Instantiation

This appendix presents an instantiation of the three models for a concrete user which serves as one of the examples to feed the Decision Support System. The highlighted values represent the selected user attributes.

### A.1. User Modelling

#### Demographics

- Year of birth (**1957**) (Table: User profile | Table: DSSUserModel)
- Sex (**male**) (Table: User profile | Attribute: Gender | Table: DSSUserModel)
- Preferred language (**Romanian**) (Table: Locality | Table: LocalityAvailableValues)

#### Physical Characteristics

- Height (**170**) (Table: User profile | Table: DSSUserModel)
- Weight (**65**) (Table: User profile | Table: DSSUserModel)
- Lower back pain (**medium**) (Table: Condition | Table: ConditionAvailableValue | Table: DSSUserModel)
- Neck/shoulders pain (**none**) (Table: Condition | Table: ConditionAvailableValue | Table: DSSUserModel)
- Arthritis in hands (**none**) (Table: Condition | Table: ConditionAvailableValue | Table: DSSUserModel)
- Lung problems (**medium**) (Table: Condition | Table: ConditionAvailableValue | Table: DSSUserModel)
- Flexibility (**medium**) (Table: Condition | Table: ConditionAvailableValue | Table: DSSUserModel)

#### Occupation and competences

- Test site (**RO**) (Table: Locality | Table: LocalityAvailableValues | Table: DSSUserModel)
- Job position (**Sales Assistant**) (Table: User profile | Table: DSSUserModel)
- Years employed (**?**) (Table: User profile | Table: DSSUserModel)

#### Underlying Skills

- ict\_literacy (**bad**) (Table: Competences | Table: Competences AvailableValues | Table: DSSUserModel)
- ict\_anxiousness (**high**) (Table: Competences | Table: Competences AvailableValues | Table: DSSUserModel)

#### Perceptual

- Visual\_acuity\_and\_sensitivity (**good**) (Table: Competences | Table: Competences AvailableValues | Table: DSSUserModel)
- Colour\_perception (**good**) (Table: Competences | Table: Competences AvailableValues | Table: DSSUserModel)
- Field\_of\_vision (**good**) (Table: Competences | Table: Competences AvailableValues | Table: DSSUserModel)
- Hearing\_ability (**good**) (Table: Competences | Table: Competences AvailableValues | Table: DSSUserModel)

### Cognitive

- Language\_reception (**very good**) (Table: Competences | Table: Competences AvailableValues | Table: DSSUserModel)
- Language\_production (**good**) (Table: Competences | Table: Competences AvailableValues | Table: DSSUserModel)
- Understanding\_abstract\_signs (**good**) (Table: Competences | Table: Competences AvailableValues | Table: DSSUserModel)
- Attention (**good**) (Table: Competences | Table: Competences AvailableValues | Table: DSSUserModel)

### Information Processing

- processing\_speed (**good**) (Table: Competences | Table: CompetencesAvailableValues | Table: DSSUserModel)
- working\_memory (**medium**) (Table: Competences | Table: CompetencesAvailableValues | Table: DSSUserModel)
- long\_term\_memory (**good**) (Table: Competences | Table: CompetencesAvailableValues | Table: DSSUserModel)
- hand\_eye\_coordination (**medium**) (Table: Competences | Table: CompetencesAvailableValues | Table: DSSUserModel)

## **A.2. Workspace Modelling**

### Room

- Size (**small**) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)
- Present colleagues (**1**) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)
- Noise level (**normal**) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)
- Artificial Light
  - Ceiling (**1**) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)



- Table Light (1) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)
- Number of desks (3) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)
- Number of chairs (9) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)

### Hardware

- Availability Indicator (0) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)
  - Availability (0) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)
- Internet (1) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)
  - Bandwidth (medium) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)
- External Monitor (1) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)
  - Touch (0) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)
  - Screen size (normal) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)
- Speakers (0) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)
  - Type (headset, headphones, loudspeakers) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)
- RFID reader (0) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)
- Mouse (1) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)
- Touchpad (0) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)
- Microphone (0) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)
- Webcam (0) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)
- Desk phone (1) (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityAvailableValues)

### A.3. Task Modelling

#### E-Mail (1) (Table: Tasks | Table: UserTasks)

- Preferred e-mail client (**Outlook**) (Table: AvailableSW | Table: AvailableSWAvailableValues)
- Check emails (1) (Table: TaskEntities | Table: UserTaskEntities)
- Prioritize emails (0) (Table: TaskEntities | Table: UserTaskEntities)
- Sort emails (0) (Table: TaskEntities | Table: UserTaskEntities)
- Respond to email (1) (Table: TaskEntities | Table: UserTaskEntities)
- Write new email (1) (Table: TaskEntities | Table: UserTaskEntities)
- Archive emails (0) (Table: TaskEntities | Table: UserTaskEntities)
- Availability indicator (2)
- Add specific workspace configuration (0) (Table: Tasks | Table: UserTasks)

#### Calendar (1) (Table: Tasks | Table: UserTasks)

- Preferred Calendar App (**Outlook Calendar**) (Table: AvailableSW | Table: AvailableSWAvailableValues)
- Open schedule (1) (Table: TaskEntities | Table: UserTaskEntities)
- Create new appointment (1) (Table: TaskEntities | Table: UserTaskEntities)
- Edit existing appointment (1) (Table: TaskEntities | Table: UserTaskEntities)
- Availability indicator (2)
- Add specific workspace configuration (0) (Table: Tasks | Table: UserTasks)

#### Searching and archiving documents (1) (Table: Tasks | Table: UserTasks)

- Preferred Search App (**Windows Search**) (Table: AvailableSW | Table: AvailableSWAvailableValues)
- Search file using Windows search (1) (Table: TaskEntities | Table: UserTaskEntities)
- Open Windows Explorer to archiving/manage documents (1) (Table: TaskEntities | Table: UserTaskEntities)
- Availability indicator (1)
- Add specific workspace configuration (0) (Table: Tasks | Table: UserTasks)

#### Text-Editor (Word) (1) (Table: Tasks | Table: UserTasks)

- Preferred text editor (**Microsoft Word**) (Table: AvailableSW | Table: AvailableSWAvailableValues)
- Open and read text document (1) (Table: TaskEntities | Table: UserTaskEntities)
- Edit text document (1) (Table: TaskEntities | Table: UserTaskEntities)
- Create new text document (1) (Table: TaskEntities | Table: UserTaskEntities)
- Availability indicator (0)

- Add specific workspace configuration (1) (Table: Tasks | Table: UserTasks)
  - **PC Configuration**
    - Font Size: Small, Medium, Large (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPreferredValues)
    - Sound Level: **Mute** (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPreferredValues)
    - Screen resolution: Low, Medium, High (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPreferredValues)
  - **Ambient Configuration**
    - Room light intensity (if available): Off, Low, Medium, High (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPreferredValues)
    - Desk light intensity (if available): **High** (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPreferredValues)

#### Spreadsheet (Excel) (1) (Table: Tasks | Table: UserTasks)

- Preferred spreadsheet editor (**Microsoft Excel**) (Table: AvailableSW | Table: AvailableSWAvailableValues)
- Open and read spreadsheet (1) (Table: TaskEntities | Table: UserTaskEntities)
- Edit spreadsheet (1) (Table: TaskEntities | Table: UserTaskEntities)
- Create new spreadsheet (1) (Table: TaskEntities | Table: UserTaskEntities)
- Availability indicator (0)
- Add specific workspace configuration (1) (Table: Tasks | Table: UserTasks)
  - **PC Configuration**
    - Font Size: Small, Medium, Large (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPreferredValues)
    - Sound Level: **Mute** (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPreferredValues)
    - Screen resolution: Low, Medium, High (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPreferredValues)
  - **Ambient Configuration**
    - Room light intensity (if available): Off, Low, Medium, High (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPreferredValues)
    - Desk light intensity (if available): **High** (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPreferredValues)

**Presentation (Powerpoint) (0)** (Table: Tasks | Table: UserTasks)

- Preferred presentation editor (Microsoft Powerpoint) (Table: AvailableSW | Table: AvailableSWAvailableValues)
- Open and read presentation (0, 1) (Table: TaskEntities | Table: UserTaskEntities)
- Edit presentation (0, 1) (Table: TaskEntities | Table: UserTaskEntities)
- Create new presentation (0, 1) (Table: TaskEntities | Table: UserTaskEntities)
- Availability indicator (0,1,2)
- Add specific workspace configuration (0,1) (Table: Tasks | Table: UserTasks)

**Meeting (1)** (Table: Tasks | Table: UserTasks)

- Conference Call (0) (Table: TaskEntities | Table: UserTaskEntities)
  - Preferred communications messenger (Skype, Adobe Connect) (Table: AvailableSW | Table: AvailableSWAvailableValues)
- Face-to-face meeting (1) (Table: TaskEntities | Table: UserTaskEntities)
- Availability indicator (0)
- Add specific workspace configuration (1) (Table: Tasks | Table: UserTasks)
- **PC Configuration**
  - Font Size: Small, Medium, Large (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPreferredValues)
  - Sound Level: **Mute** (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPreferredValues)
  - Screen resolution: Low, Medium, High (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPreferredValues)
- **Ambient Configuration**
  - Room light intensity (if available): **High** (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPreferredValues)
  - Desk light intensity (if available): Off, Low, Medium, High (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPreferredValues)

**Browser (1)** (Table: Tasks | Table: UserTasks)

- Preferred browser (**Firefox**) (Table: AvailableSW | Table: AvailableSWAvailableValues)
- New tab (1) (Table: TaskEntities | Table: UserTaskEntities)
- Search in search engine (e.g. Google) (1) (Table: TaskEntities | Table: UserTaskEntities)
- Bookmark site (1) (Table: TaskEntities | Table: UserTaskEntities)

- Edit bookmarks (1) (Table: TaskEntities | Table: UserTaskEntities)
- Availability indicator (2)

#### Researching (0) (Table: Tasks | Table: UserTasks)

- Preferred reader (Adobe Reader, Foxit Reader) (Table: AvailableSW | Table: AvailableSWAvailableValues)
- Reading articles (0, 1) (Table: TaskEntities | Table: UserTaskEntities)
- Literature search (0, 1) (Table: TaskEntities | Table: UserTaskEntities)
- Availability indicator (0,1,2)
- Add specific workspace configuration (0,1) (Table: Tasks | Table: UserTasks)

#### Task management (1) (Table: Tasks | Table: UserTasks)

- Preferred task management app (Achievo) (Table: AvailableSW | Table: AvailableSWAvailableValues)
- View pending tasks (1) (Table: TaskEntities | Table: UserTaskEntities)
- Add new task (1) (Table: TaskEntities | Table: UserTaskEntities)
- Edit/complete existing task (1) (Table: TaskEntities | Table: UserTaskEntities)
- Availability indicator (2)

#### Organization specific tasks (0) (Table: Tasks | Table: UserTasks)

- Open company's sharepoint/intranet portal (0, 1) (Table: TaskEntities | Table: UserTaskEntities)
- Open company-specific time registration portal/program (0, 1) (Table: TaskEntities | Table: UserTaskEntities)
- Availability indicator (0,1,2)

#### Quick Notes (e.g. Google Keep or Windows post-it notes) (0) (Table: Tasks | Table: UserTasks)

- Preferred Notes Editor( ) (Table: AvailableSW | Table: AvailableSWAvailableValues)
- Add note (0, 1) (Table: TaskEntities | Table: UserTaskEntities)
- Delete note (0, 1) (Table: TaskEntities | Table: UserTaskEntities)
- Edit note (0, 1) (Table: TaskEntities | Table: UserTaskEntities)
- Availability indicator (0,1,2)

#### Traveling (1) (Table: Tasks | Table: UserTasks)

- To other location within the company (1) (Table: TaskEntities | Table: UserTaskEntities)
- To other location outside the company (1) (Table: TaskEntities | Table: UserTaskEntities)

**e-Learning (1)** (Table: Tasks | Table: UserTasks)

- Define the objectives for the learning process (1) (Table: TaskEntities | Table: UserTaskEntities)
- Find and read instructional material (1) (Table: TaskEntities | Table: UserTaskEntities)
- Participate in knowledge test (1) (Table: TaskEntities | Table: UserTaskEntities)
- Communicate (1)
  - Contact the teacher (1) (Table: TaskEntities | Table: UserTaskEntities)
  - Write and read in discussion group (1) (Table: TaskEntities | Table: UserTaskEntities)
  - Participate in interest group (1) (Table: TaskEntities | Table: UserTaskEntities)
- **Coordinate (0)**
  - Check learning agenda (0, 1) (Table: TaskEntities | Table: UserTaskEntities)
  - Read news (0, 1) (Table: TaskEntities | Table: UserTaskEntities)
  - Check results of knowledge test (0, 1) (Table: TaskEntities | Table: UserTaskEntities)
- **Cooperate (1)**
  - Check slides and bibliography (1) (Table: TaskEntities | Table: UserTaskEntities)
  - Record a presentation (1) (Table: TaskEntities | Table: UserTaskEntities)
- Availability indicator (1)
- Add specific workspace configuration (1) (Table: Tasks | Table: UserTasks)
  - **PC Configuration**
    - Font Size: Small, Medium, Large (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPreferredValues)
    - Sound Level: **Medium** (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPreferredValues)
    - Screen resolution: **High** (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPreferredValues)
  - **Ambient Configuration**
    - Room light intensity (if available): Off, Low, Medium, High (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPreferredValues)
    - Desk light intensity (if available): Off, Low, Medium, High (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPreferredValues)

**Multimedia related tasks (0)** (Table: Tasks | Table: UserTasks)

- Preferred multimedia player (Windows Media Player, VideoLan VLC) (Table: AvailableSW | Table: AvailableSWAvailableValues)
- Availability indicator (0,1,2)
- Add specific workspace configuration (0,1) (Table: Tasks | Table: UserTasks)

Cognitive training games (1) (Table: Tasks | Table: UserTasks)

- Availability indicator (2)
- Add specific workspace configuration (1) (Table: Tasks | Table: UserTasks)

➤ **PC Configuration**

- Font Size: Small, Medium, Large (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPrefferedValues)
- Sound Level: **Medium** (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPrefferedValues)
- Screen resolution: **High** (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPrefferedValues)

➤ **Ambient Configuration**

- Room light intensity (if available): Off, Low, Medium, High (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPrefferedValues)
- Desk light intensity (if available): Off, Low, Medium, High (Table: WorkspaceEntitiesCharacteristics | Table: WorkspaceEntityUserPrefferedValues)