



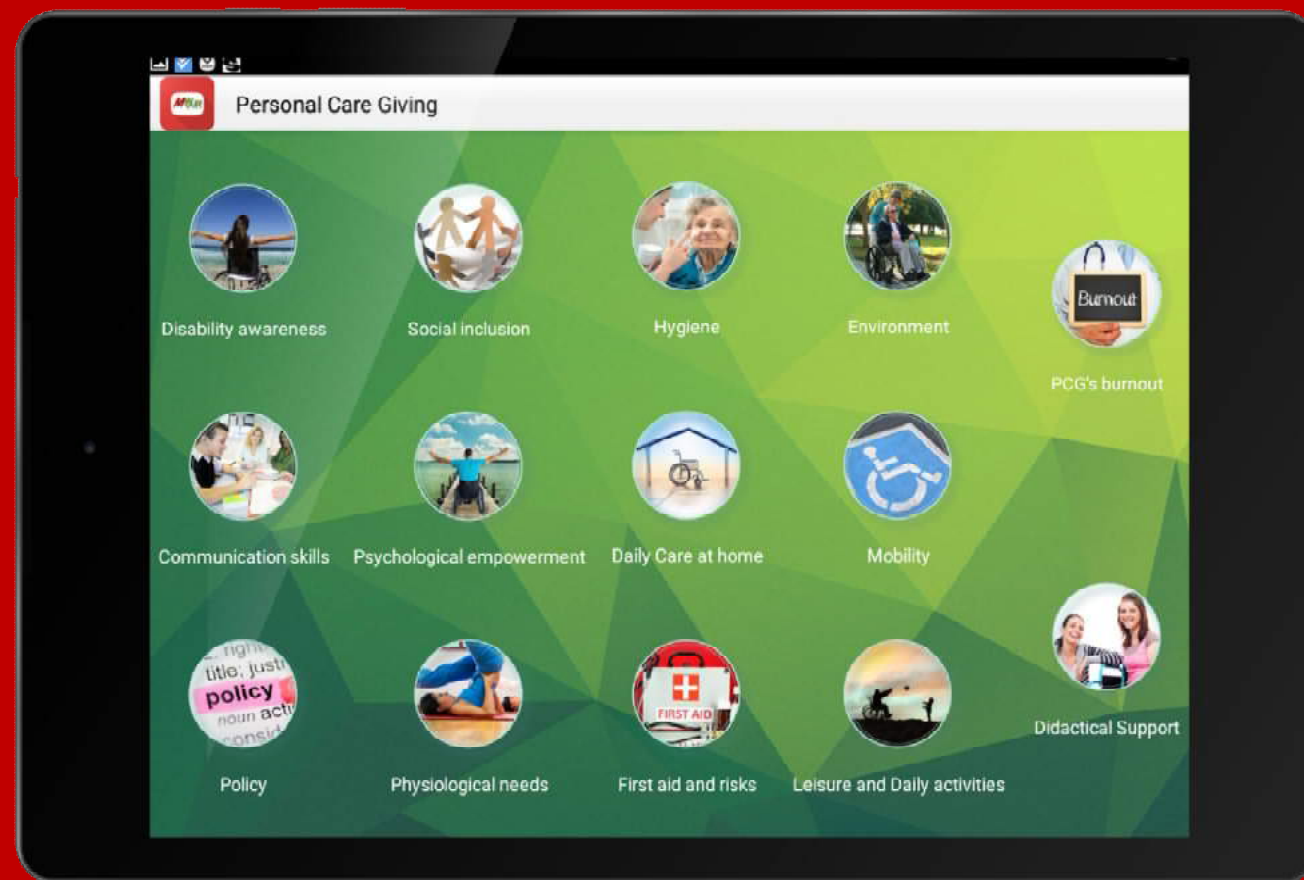
Mobile Training for Home and Health Caregiver For People with Disabilities and Older People

Usability and Accessibility Issues: The case of the mobile M-CARE training platform

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Usability Day, 19/12/2015



Gamified mobile/online learning for personal care givers for people with disabilities and older people



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Design methodology

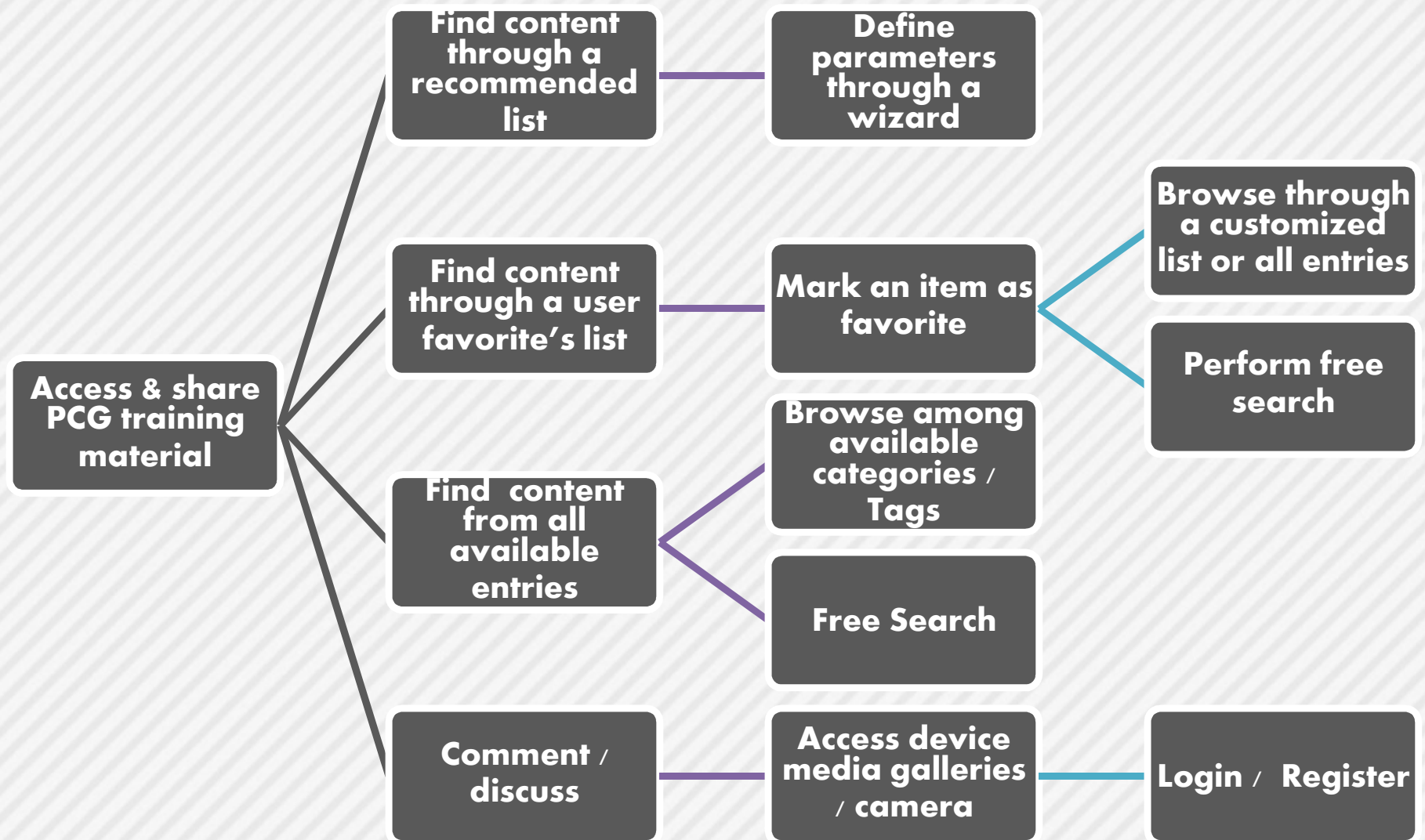
The M-Care application was designed following a user-centred approach and the principles of universal design [Horton, S., Stephanidis, C.]. Under this framework the following tools were used:

- **M-CARE survey results** which provided the user requirements
- **Personas:** User profiles for all major target groups
- **Scenarios:** Narratives describing interactions of user roles and the technical system in order to achieve a fictional goal
- **Use cases**, providing a very detailed look at how each user interacts with the application
- **Task Analysis:** Involves learning about users' goals and understanding the tasks that users will perform using it
- **Mock-ups** which were presented to project partners to collect feedback before implementing.

Targeted User Populations

User Group	Demographic Information	Domain / previous knowledge	Computing Experience	Computing Environment
Low skilled people	18+, any level of education (usually low skilled), employed/ looking for employment)	Possible training on caregiving tasks	Low ICT literacy	Desktop to some extent Mainly mobile devices
Current PCGs / nurses	18+, minimum secondary education	Possible training but definitely experience in caregiving tasks	Medium ICT literacy	Desktop Mobile devices
Trainers	Any age, Higher education (e.g. special education trainers) / employed in training centres.	Medical background / PCG related tasks and/or ICT AT	Medium - High experience	Desktop Mobile devices

Hierarchical Task Analysis



Multilingual content

The application offers content in English, Turkish, Bulgarian, Dutch, German and Greek.

After launching the application users are prompted to select their language using buttons illustrated with the respective flags.

Multilingual content



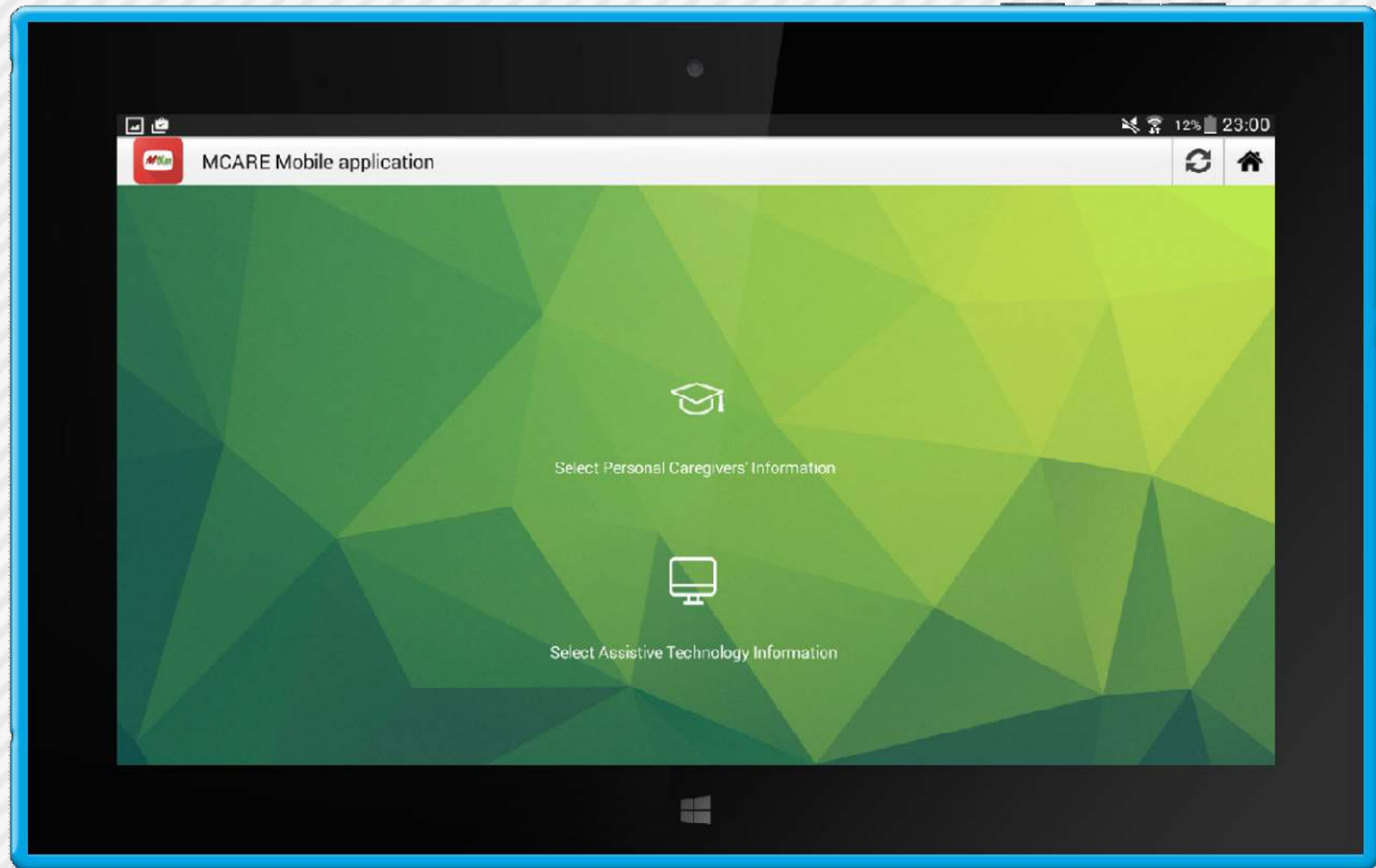
Architecture of the app

Dual functionality

- M-Care application provides both PCG training and educational material about assistive technology products based on information and communication technologies (ICT-AT)*.
- The app provides two distinct options at start up. Two buttons are used, one for changing role (AT or PCG) and one for returning to the main menu of the role interface that the user is using at that time.

* The application incorporates material created under the framework of the ATLEC project (<http://atlec-project.eu/>)

Dual functionality

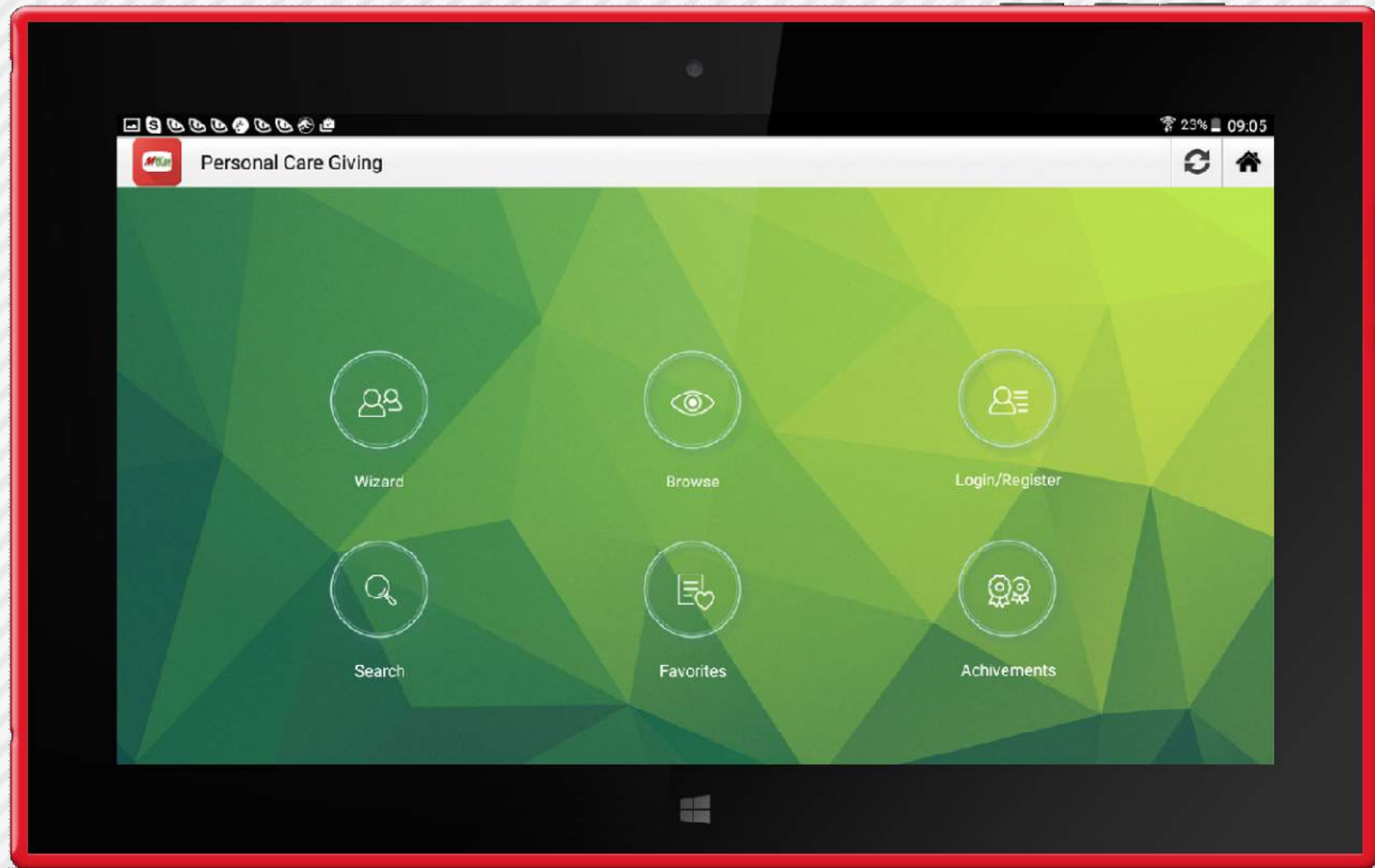


PCG mode

Users can reach the educational material:

- defining a set of parameters through a wizard
- search freely using keywords
- browse through the list of all available courses.
- ability to monitor their progress through a point & badges system and through quizzes at the end of each training unit.

PCG mode



Wizard

For the PCG role, the application offers a wizard which will guide the user into finding the training material he/she needs based on the following questions:

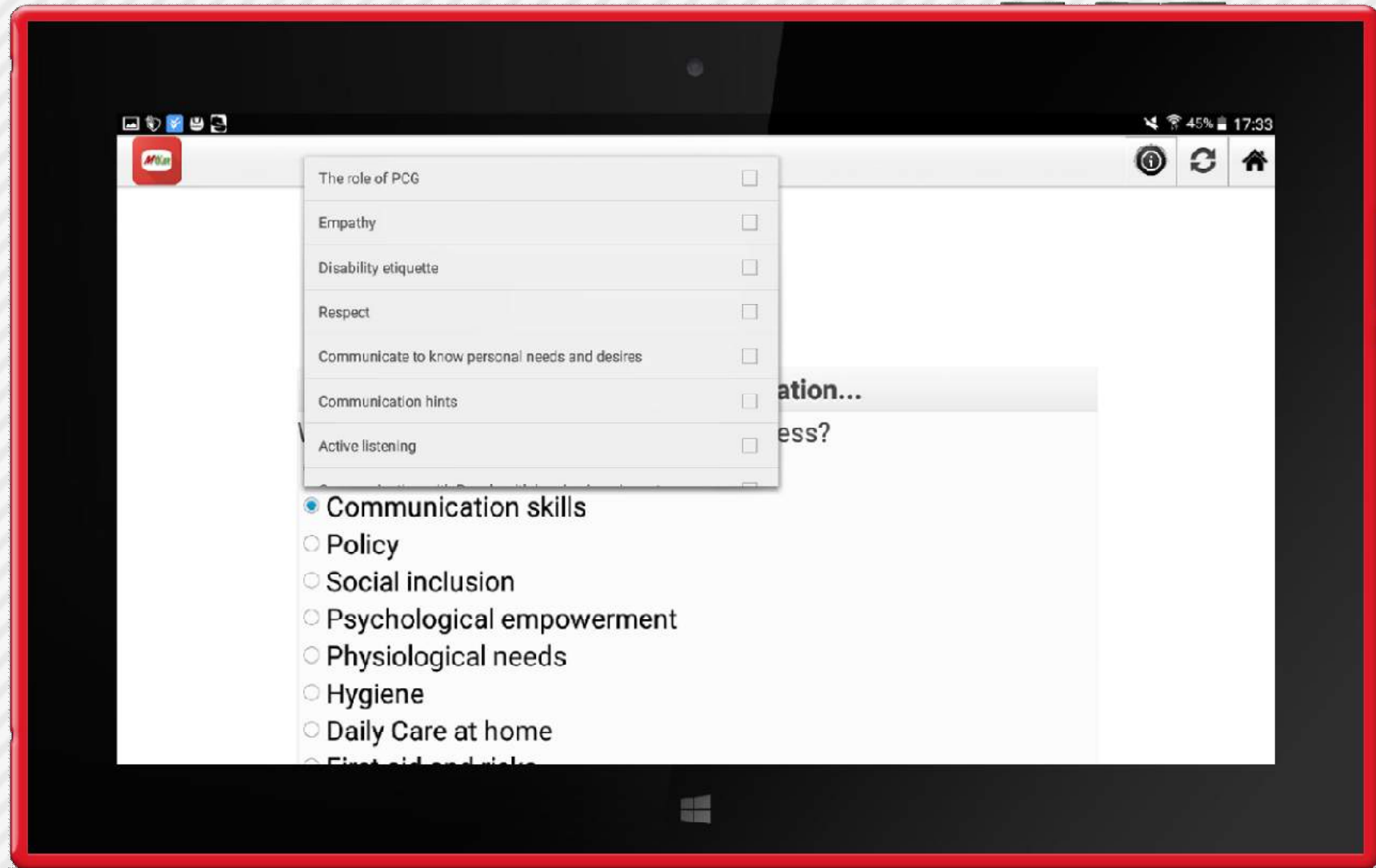
Wizard

Please, complete the requested information...

What type of needs do you need to address?

- ☐ Disability awareness
- ☐ Communication skills
- ☐ Policy
- ☐ Social inclusion
- ☐ Psychological empowerment
- ☐ Physiological needs
- ☐ Hygiene
- ☐ Daily Care at home
- ☐ First aid and risks
- ☐ Environment
- ☐ Mobility
- ☐ Leisure and Daily activities
- ☐ PCG's burnout

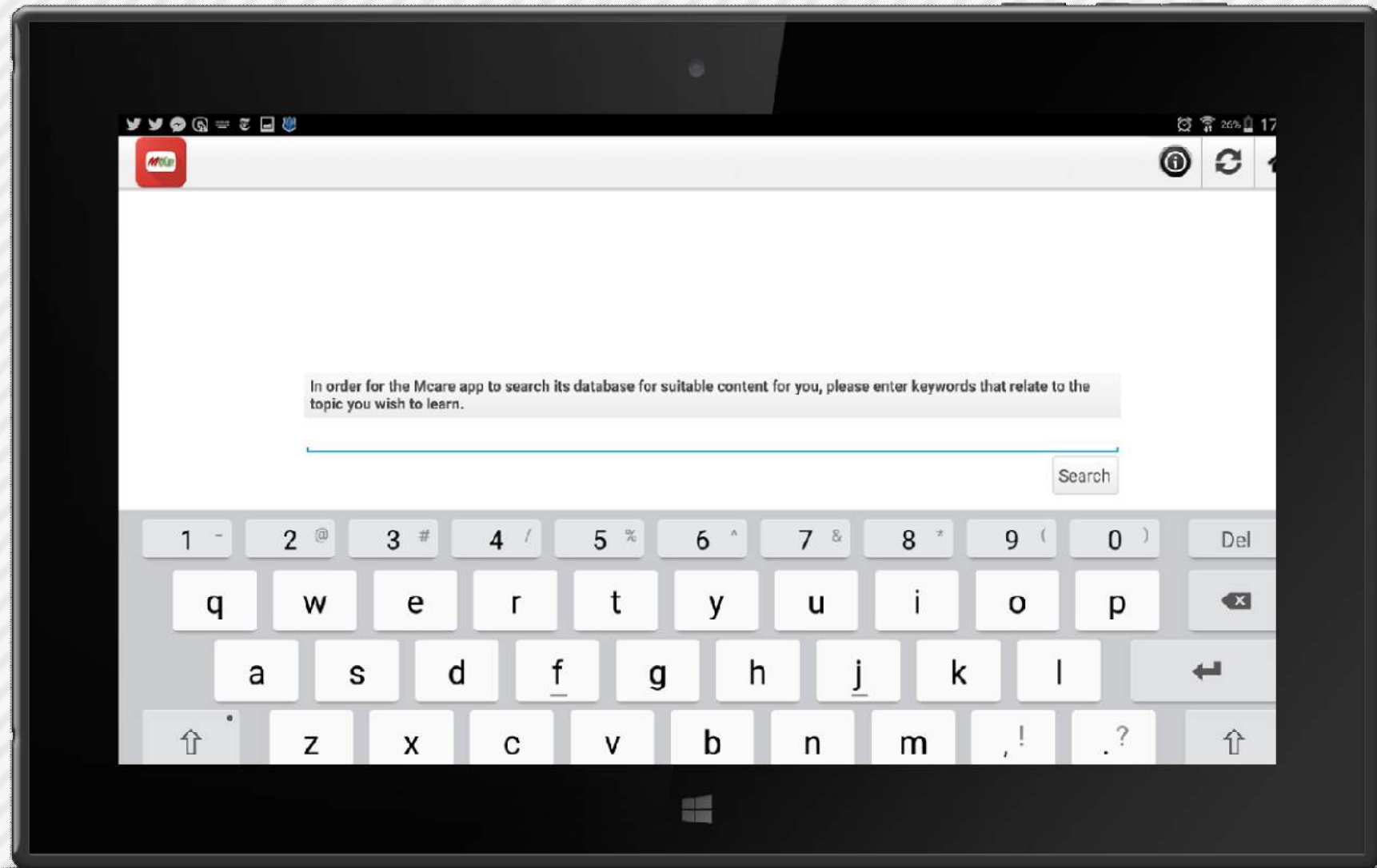
Wizard



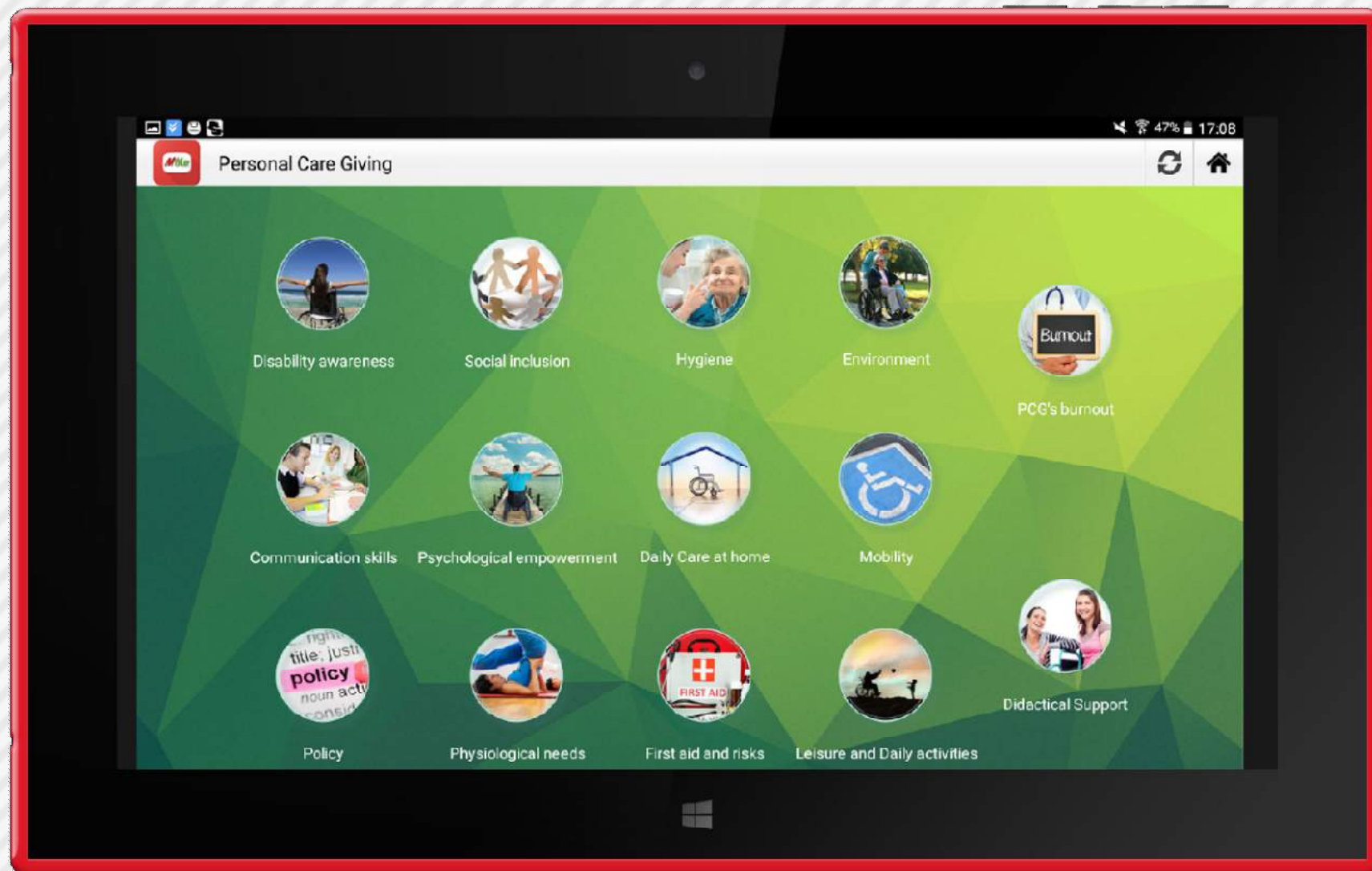
Free and category based search

Users are also able to perform a keyword search which will present them with all relevant results. There is also an option for searching through all the available thematic categories.

Free search



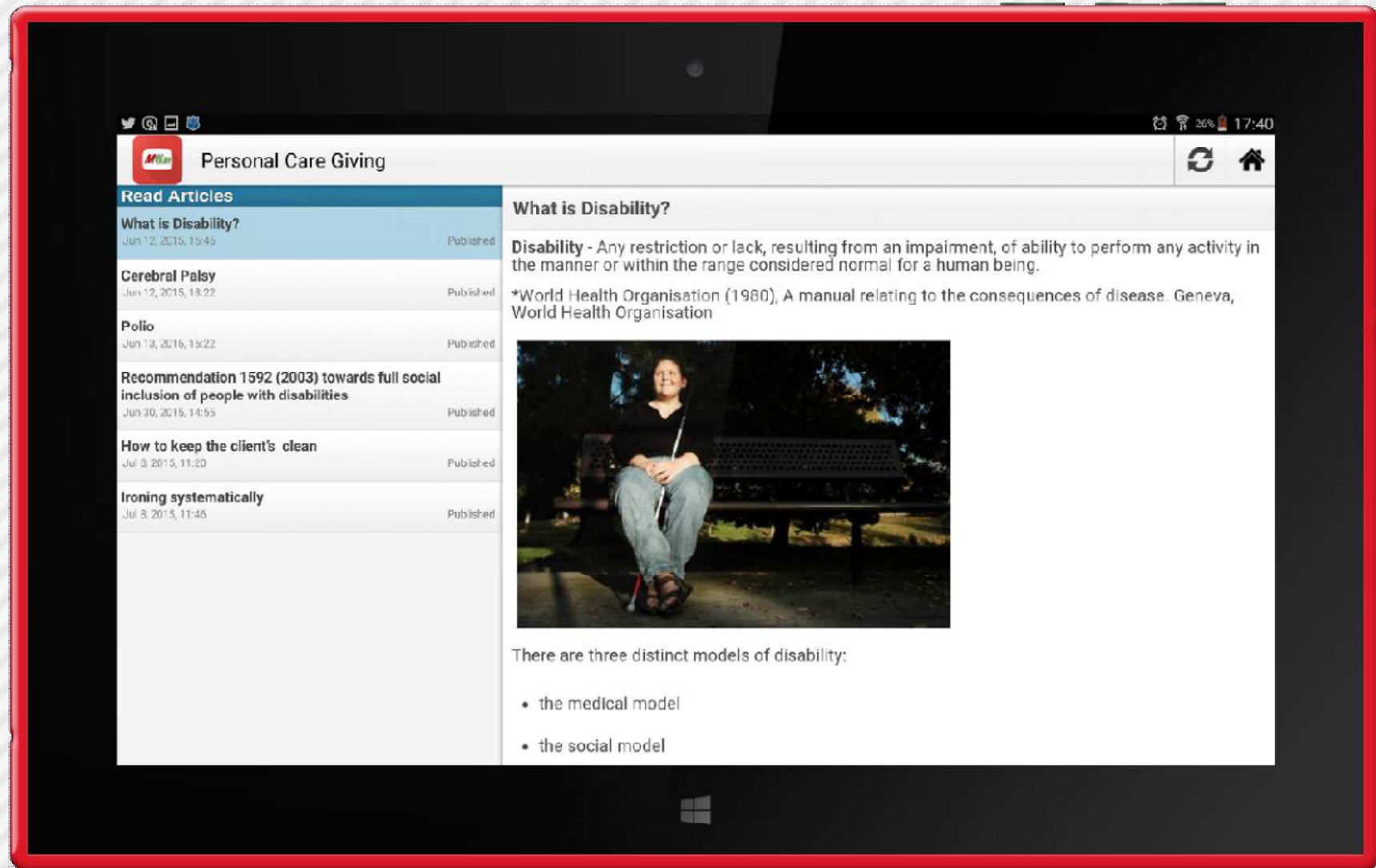
Category based search



Favourites

Users are able to view a list with training modules that they have marked as favourites through a button in the main screen of the application.

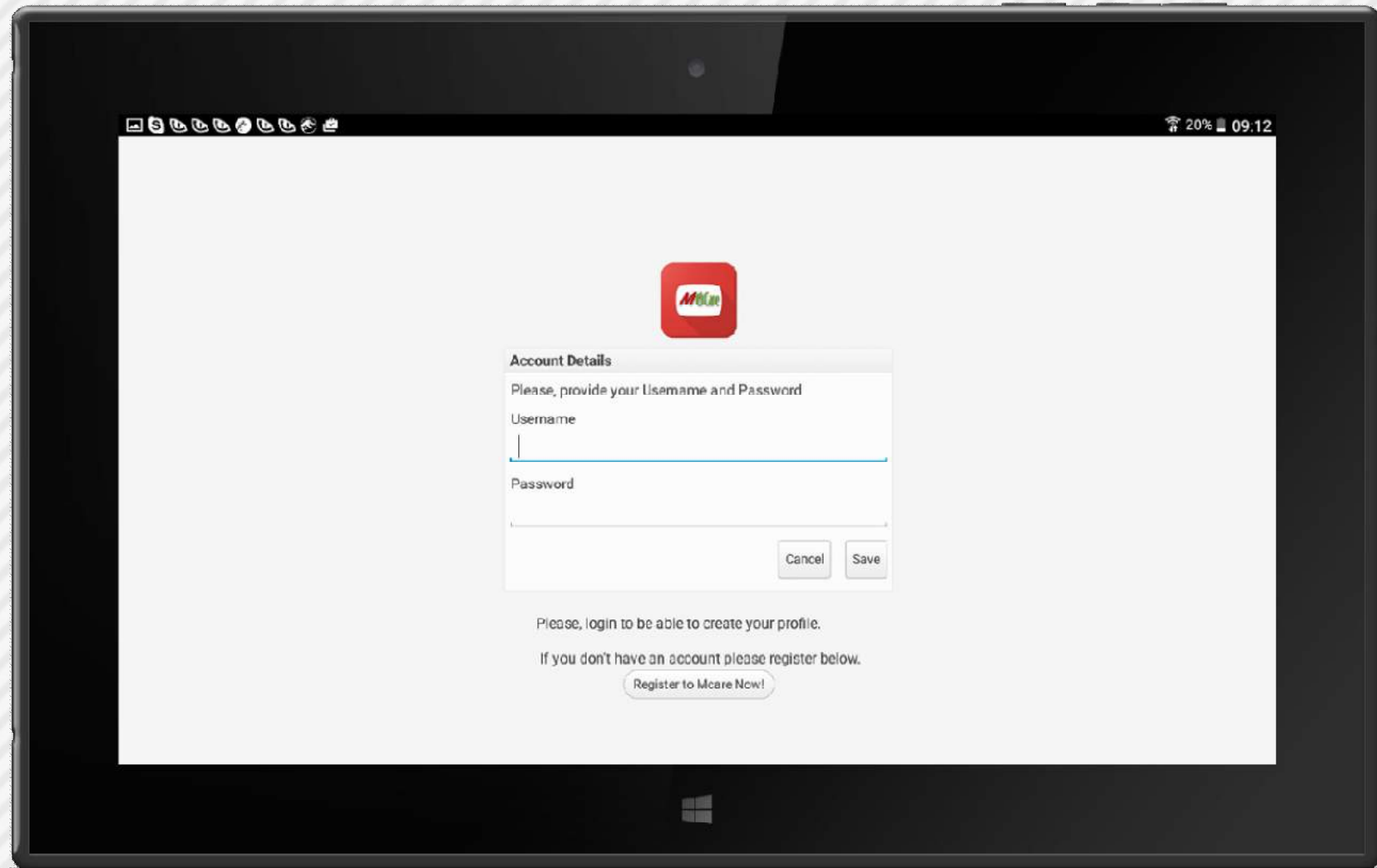
Favourites



Login / Register

Through this feature, users will be able to register, login and logout of the app.

Login / Register




Training modules

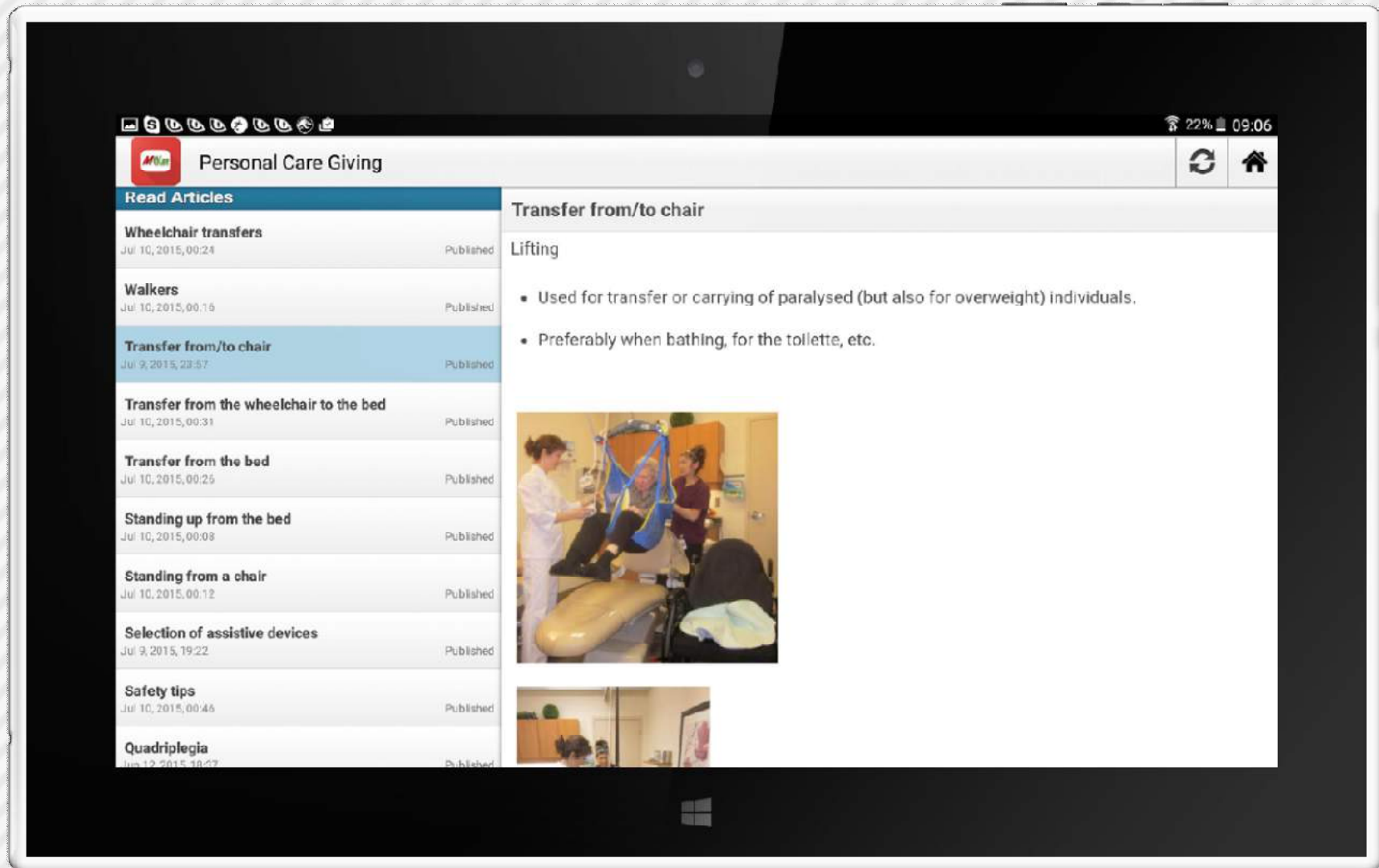
- Based on the survey findings, most respondents seem to prefer a blended training approach - (online & face to face), with video indicated as the preferred form of training content.
- Therefore, for training units focus is given to ***embedded multimedia*** such as YouTube videos.
- At the bottom of every course there is a ***discussion icon*** that leads to a discussion board, where users can interact with each other, ask questions and talk about the course, and share good practices.

Training modules

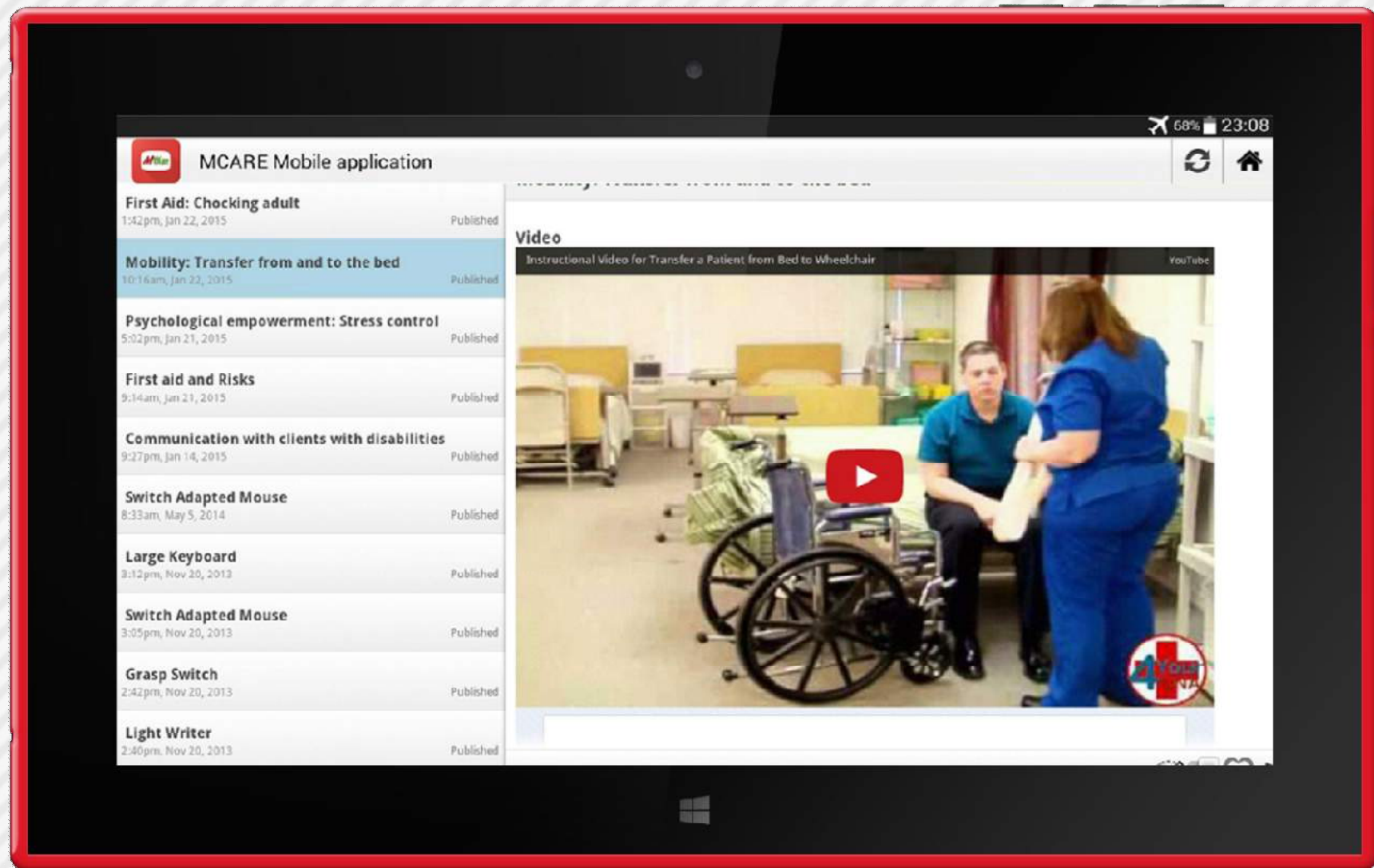
Personal Care Giving

Gloves Jul 6, 2015, 16:57 Published	Suggested procedure
Common infectious diseases Jul 6, 2015, 18:32 Published	Disinfecting Hands Suggested procedure
Definition Jul 7, 2015, 13:51 Published	<ul style="list-style-type: none">• operate the crank of the dispenser with the elbow• with the „cupped“ other hand disinfecting fluid is caught – without any contact to the distributor
Essentials Jul 7, 2015, 12:57 Published	
Objectives Jul 7, 2015, 14:04 Published	
Suggested procedure Jul 7, 2015, 14:13 Published	
Definition Jul 7, 2015, 14:44 Published	
Objectives Jul 7, 2015, 15:06 Published	
Preparation Jul 7, 2015, 15:08 Published	<ul style="list-style-type: none">• rub your hands together and spread the disinfectant roughly on the skin• rub palm to palm
Autonomous Jul 7, 2015, 15:10 Published	

Training modules



Training modules



Social part: Comments, sharing, Reply to Comments

The screenshot shows a mobile application interface for 'Personal Care Giving'. At the top, there's a status bar with icons for signal, Wi-Fi, battery (47%), and time (17:19). Below the status bar is a navigation bar with a 'MedCare' logo and the title 'Personal Care Giving'. To the right of the title are icons for refresh and home.

The main content area is divided into two columns. The left column, titled 'Read Articles', lists several articles with their titles, dates, and 'Published' status:

- What is Disability?** (Jun 12, 2015, 16:45)
- The medical model of disability** (Jun 12, 2015, 17:06)
- The social model of disability** (Jun 12, 2015, 17:32)
- The bio-psycho-social model of disability** (Jun 12, 2015, 17:36)
- Anti-discrimination and legislation** (Jun 12, 2015, 17:40)
- UN Convention on the Rights of Persons with Disabilities** (Jun 12, 2015, 17:43)
- Disability Strategy 2010-2020** (Jun 12, 2015, 17:46)
- National legislation** (Jun 12, 2015, 17:52)
- Occurrence of disability** (Jun 12, 2015, 18:00)
- People with mobility impairments** (Jun 12, 2015, 18:11)
- Muscular Dystrophy** (Jun 12, 2015, 18:17)

The right column displays the content of the selected article, 'What is Disability?'. It includes a definition of disability, a reference to the World Health Organisation (1980), and a list of three distinct models of disability. A 'Reply to Comment' dialog box is overlaid on the right column, prompting the user to enter a reply in Greek.

What is Disability?

Disability - Any restriction or lack, resulting from an impairment, of ability to perform any activity in the manner or within the range considered normal for a human being.

*World Health Organisation (1980), A manual relating to the consequences of disease. Geneva, World Health Organisation

Reply to Comment

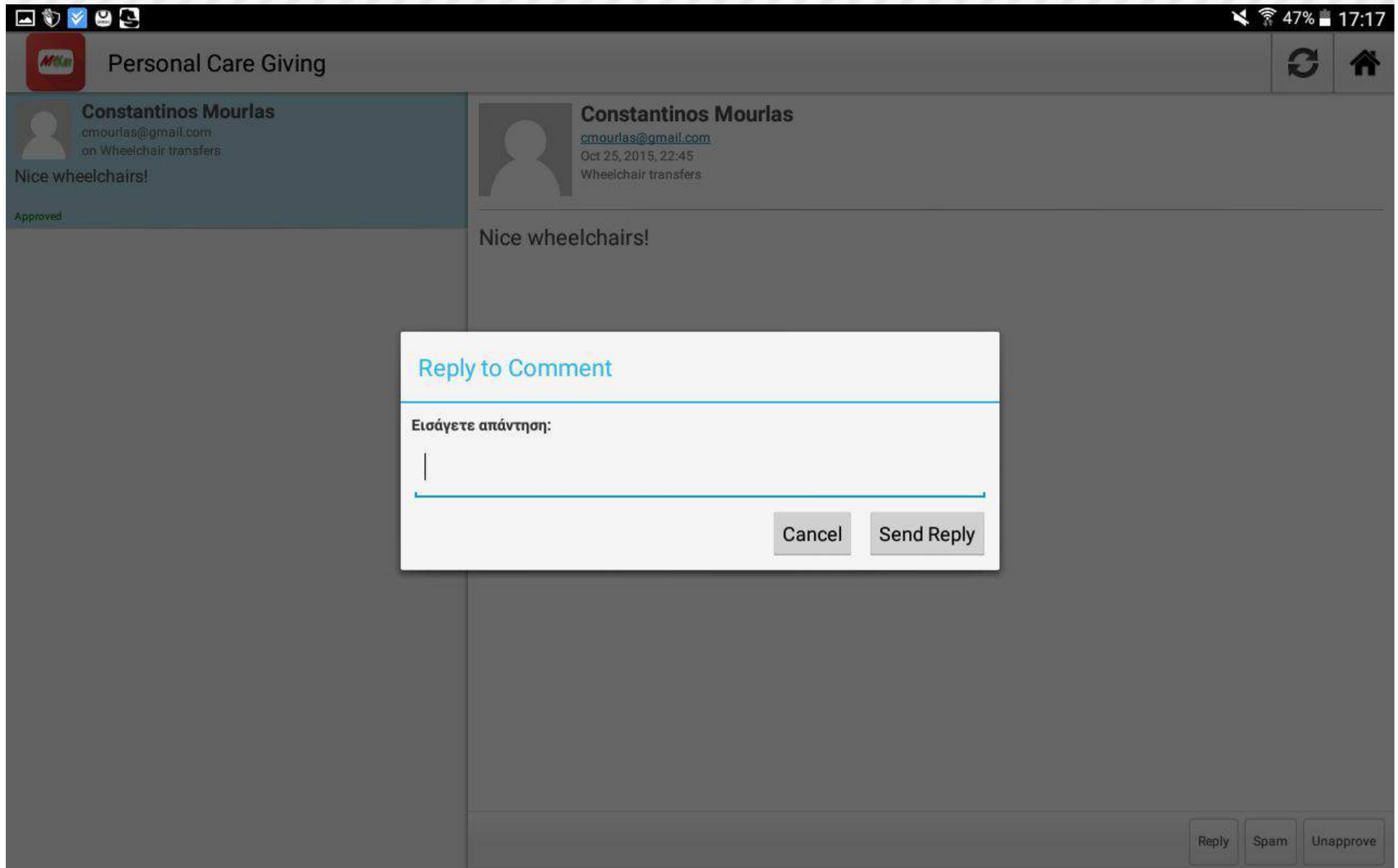
Εισάγετε απάντηση:

Cancel Send Reply

There are three distinct models of disability:

- the medical model
- the social model
- the bio-psycho-social model

Social part: Comments, sharing, Reply to Comments ...





Gamification

“The use of game elements and game design techniques in non-game contexts.”



Goal:
get your players
playing,
and keep them playing

Result: Increase
Engagement
Better satisfaction levels,
More intrinsic motivation to
learn.

The “Game”

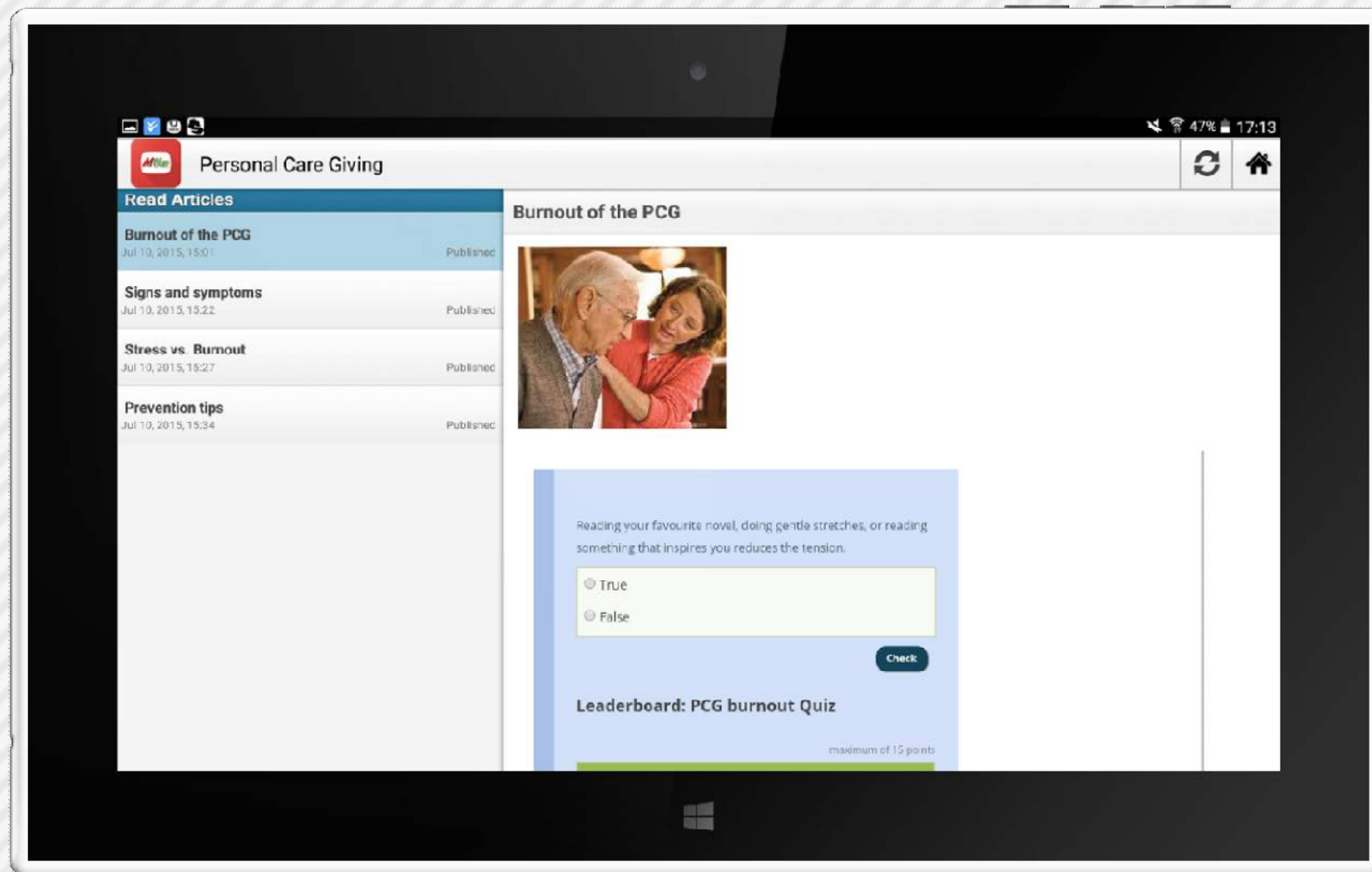
- Users earn points for every step they complete (sharing, commenting) and badges as a status signifier for their achievements in answering quizzes, after completing any PCG training course.
- Depending on the number of badges collected, the user is characterized as "novice", "intermediate" or "expert", each title demonstrated by corresponding badges (e.g. gold, silver, bronze).
- The player's journey can be monitored through the "Achievements" screen

Point Value	Point awards for player activities	
	Activity	Purpose
100 points	Create an account	Early welcome bonus
50/10 points	Correct/False Quiz Answer	Have users completed the modules
100 points	Try a new course	Have users tried the suggested modules
30 points	Share	Have users shared their experience
40 points	Start a new topic	Have users talked about M-Care
10 points	Comment	Have users commented the content
5 points	Favourite	Have users rate the content

Quiz

- Every Category has a Quiz with 15 questions from all the modules.
- 50% of the questions are displayed randomly.

PCG Burnout Quiz



PCG Burnout Quiz – Answers

The screenshot shows a tablet screen with a quiz application. The top status bar displays various icons and the time 17:34. The app header is 'Personal Care Giving' with a logo and navigation icons. A sidebar on the left lists 'Read Articles' with three items: 'Burnout of the PCG', 'Signs and symptoms', and 'Stress vs. Burnout', each with a 'Published' status. The main content area is titled 'Burnout of the PCG' and contains a quiz question: 'When having a burnout, your life revolves around caregiving, but it gives you little or no satisfaction.' The question has two options: 'True' (selected) and 'False'. A 'Next' button is visible. Below the question is a 'Leaderboard: PCG burnout Quiz' section, which includes a table of scores and a 'maximum of 15 points' note.

Personal Care Giving

Read Articles

- Burnout of the PCG**
Jul 10, 2015, 15:01 Published
- Signs and symptoms**
Jul 10, 2015, 15:22 Published
- Stress vs. Burnout**
Jul 10, 2015, 15:27 Published
- Prevention tips**
Jul 10, 2015, 15:34 Published

Burnout of the PCG

When having a burnout, your life revolves around caregiving, but it gives you little or no satisfaction.

☒ True
☐ False

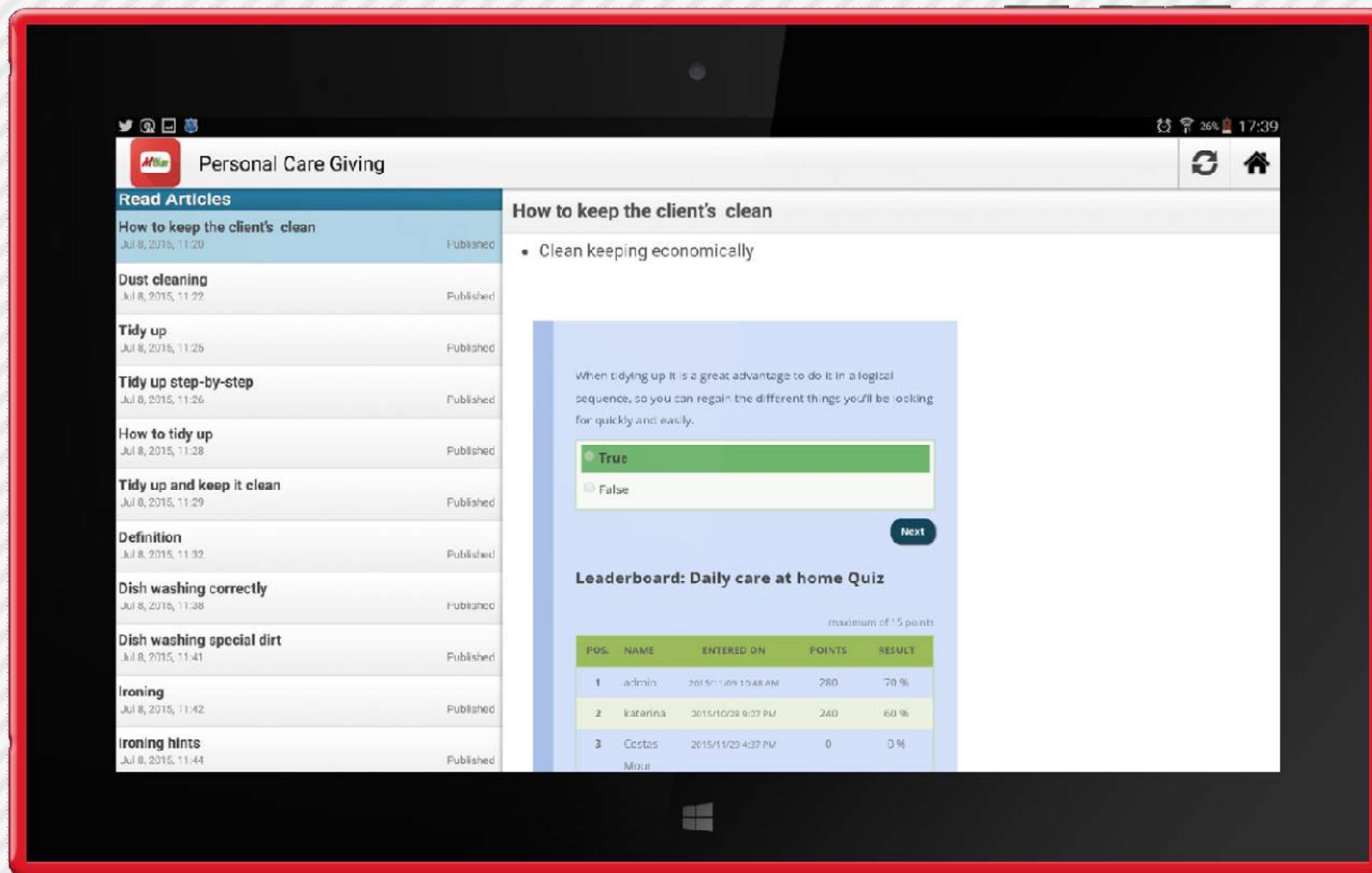
Next

Leaderboard: PCG burnout Quiz

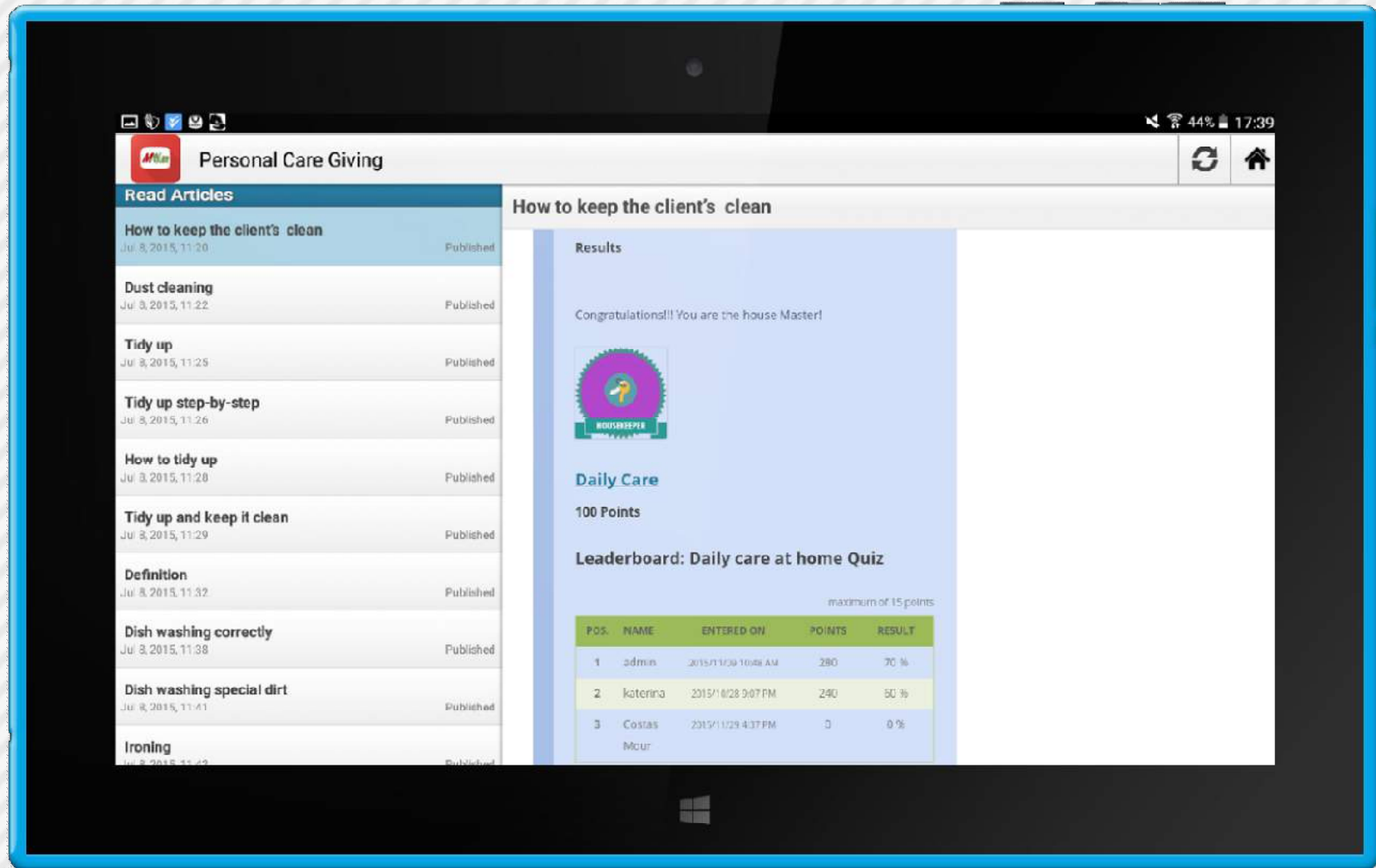
maximum of 15 points

POS.	NAME	ENTERED ON	POINTS	RESULT
1	Cosmas Mour	2015/11/09 11:09 PM	0	75 %
2	katerina	2015/11/15 6:18 PM	0	0 %

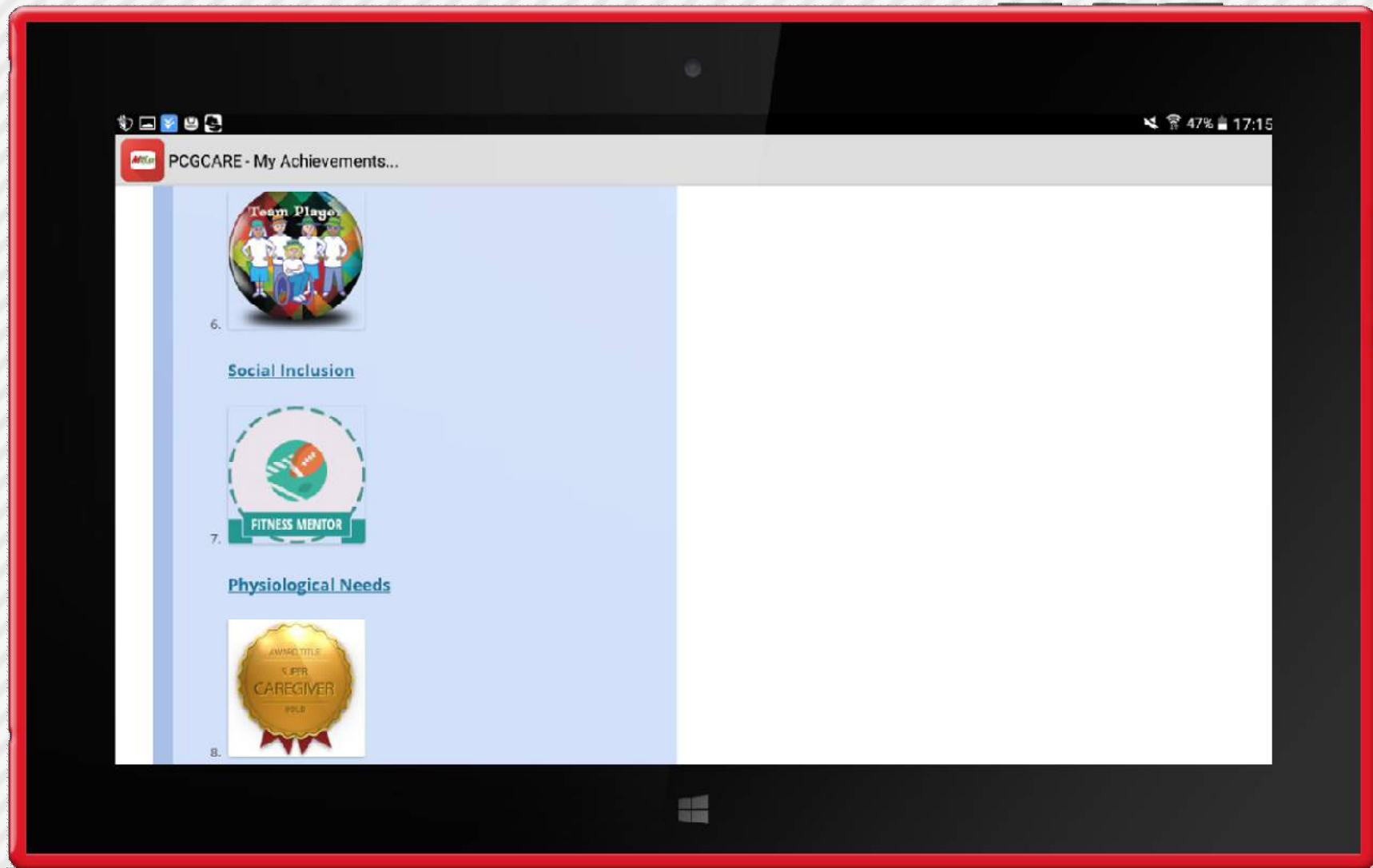
Daily Care Quiz



Badge & Leaderboard



Achievements



Achievements

2. Disability Awareness



3. Communication Skills



5. Social Inclusion



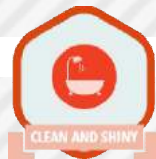
6 Psychological Empowerment



7 Physiological Needs



8 Hygiene



9 Daily care at home



10 First aid and risks



11 Environment



12 Mobility



13 Leisure daily activities



14 PCG burnout



Memory Trainer / You Rock



Nerd Alert / Wise



Golden Medal / Silver Medal / Bronze Badge



Welcome / Social Media



Personal Care Giving

Your PCG portal on care for older people and people with disabilities

[HOME](#)[GROUPS](#)[MEMBERS](#)[GLOSSARY](#)[MY TOOLBOX](#)[CONTACT US](#)[SUGGEST CONTENT](#)

European people with disabilities (especially those with mobility impairments) depend heavily on personal care givers (PCGs). While this assistance is crucial in ensuring a daily quality of life (assisting with basic tasks such as getting dressed, eating, taking a bath/shower), it is still quantitatively and qualitatively a huge problem.

Few PCGs get a proper training, if any, while such formal training hardly exists in EU countries. Most PCGs are low skilled, have to be trained on the field, thus making it a very laborious and at the same time a tricky “adventure” for people with disabilities, but equally for e.g. older people who make use of them.

LOGIN

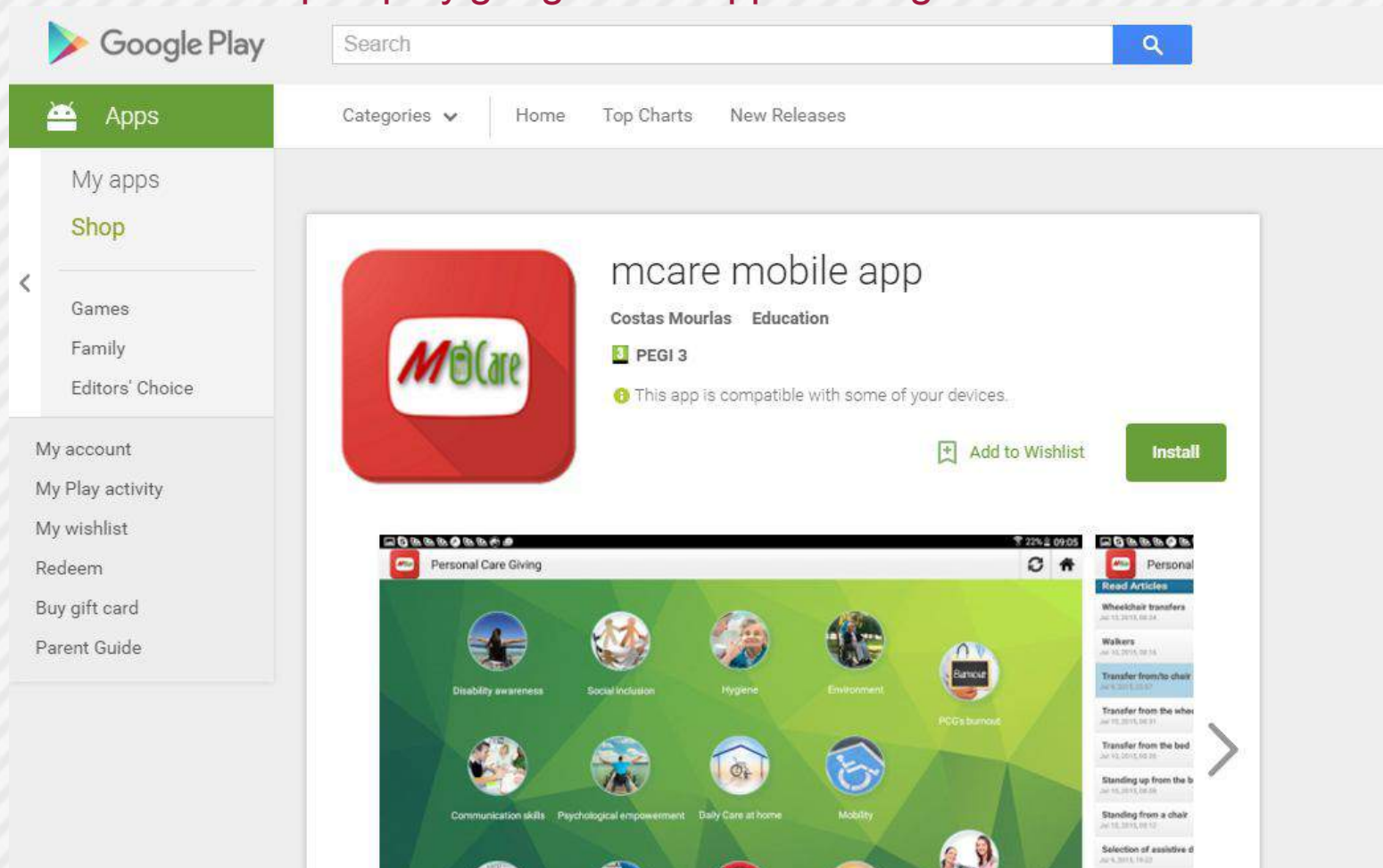
Username

Password

Try the app

You can try the beta version of the M-Care mobile application by downloading it from Google Play:

<https://play.google.com/apps/testing/eu.mcare.android>



Thank you for your attention!

