## Contents

1. General .......................................................... 1
2. Setting up **dob** ............................................. 1
   2.1 **dob** online ........................................... 1
   2.2 **dob** App ............................................... 1
3. Using **dob** .................................................... 2
   3.1 Requirements ............................................. 2
      3.1.2 **dob** online .................................... 2
      3.1.3 **dob** App ....................................... 2
   3.2 Home screen .............................................. 3
   3.3 Program control ........................................... 5
   3.4 The 10 exercises of the basic version .................. 6
   3.5 Import exercises from **dob pro** ...................... 8
      3.5.1 Import exercises **dob** online ................. 8
      3.5.2 Import exercises **dob** App ................... 8
   3.6 Manage imported files ................................... 9
4. Evaluation exercise ............................................ 10
   4.1 Evaluation settings .................................... 10
   4.2 General options ........................................ 11
   4.3 Evaluation examples .................................... 12
      4.3.1 Evaluation 1: Module spot – Gaze Switching horizontal .... 12
      4.3.2 Evaluation 2: Module spotPlus – Search and find shape .... 13
      4.3.3 Evaluation 3: Module zoom – Contrast ............... 14
      4.3.4 Evaluation 4: Module track – Collecting goals ....... 15
5. Versions ......................................................... 16
6. Thanks .......................................................... 17
7. Note .............................................................. 18
8. Copyright ......................................................... 18
1 General

dob is an educational software suited for the promotion of basic visual and visuomotor skills. It was initially designed for the needs of visually impaired persons. The high extent of individualisation further allows its use in various fields of the curative as well as the special education, in physical rehabilitation, and as an assisting and observatory instrument in early education. dob offers a broad range of exercises, covering easy stimulations, generally basic tasks as well as the training of cognitive skills.

2 Setting up dob

2.1 dob online

The online version of dob can be used immediately in a modern browser. dob's most efficient use is with Chrome or Firefox where it has been extensively tested. Simply bookmark your interface, create a shortcut on your desktop, or add the respective start icon on your iPad/Android tablet.

After starting dob, press F11 (Windows) / ↑⌘F (Mac) to switch to full screen mode. If you are using an iPad or Android tablet start dob by tapping the icon on the home screen. Delete the browser history after program updates for new features to be adapted properly.

2.2 dob App

Download the app from the App Store on your iPad. Tap on dob tile to launch the app.
3 Using dob

3.1 Requirements

3.1.1 General
Through the use of different entry options (touchscreen, switching device, mouse or keypad) the programm takes into account the special conditions of multiply retarded people. In most of dob’s exercises, the user’s options are limited to a number of two: confirm and continue, commanded by the keys SPACE and ENTER. Those two commands can also be defined on a switching device, allowing a most individual approach within each exercise.

3.1.2 dob online

dob online can be used on desktop-computers as well as on laptops and tablets.
   Desktop computers and laptops: Control by mouse, computer keyboard and switching devices. Connected with a Touchscreen, dob can be controlled by gestures additionally.
   Tablets: Control by gestures. External bluetooth keyboards are not supported.

3.1.3 dob App

dob App works on iOS tablets.
   Control with gestures. Connected with an external bluetooth-keyboard, the App supports all dob shortcut keys.
3.2 Home screen

dob is the basic version of dob pro for learners. The training contains a set of 10 fixed exercises, covering the most important visual skills. Additionally, an import area is available, providing the import of specifically selected exercises from dob pro - the full version for therapists and teachers.
Upgrade to dob+
Evaluation exercise
Reveal shortcut keys
Select language
Thumbnail Exercise
Click/tab the thumbnail to start the exercise
Fixed exercises of the basic version
Import exercises from dob pro
### 3.3 Program control

On a tablet, the program is controlled by gestures. Using a computer or laptop, program functions are controlled by shortcut keys and/or gestures, if a touchscreen is connected.

<table>
<thead>
<tr>
<th>Effect</th>
<th>Shortcut key</th>
<th>Gesture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online version in a browser</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gesture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>App or online version on a tablet/touchscreen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Start exercise</td>
<td>Click the exercise</td>
<td>Tap the exercise</td>
</tr>
<tr>
<td>Start task / Confirm task</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quit exercise</td>
<td>enter</td>
<td></td>
</tr>
<tr>
<td>List of shortcut keys and gestures</td>
<td>🎲 + 📂</td>
<td></td>
</tr>
</tbody>
</table>

Within exercises, commands are available to adapt the visual environment in order to individualize to your personal needs. They will be explained in chapter 3.4.

→ Keyboard shortcuts and touchscreen gestures (pdf)
### 3.4 The 10 exercises of the basic version

The main task is to either find requested objects and colors, to click/tap them or to move objects with your finger/mouse across the screen.

<table>
<thead>
<tr>
<th>Thumbnail</th>
<th>Title</th>
<th>Skill</th>
<th>Tasks</th>
<th>Difficulty</th>
<th>Individualization</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Fixation random" /></td>
<td>Fixation random</td>
<td>Motility</td>
<td>12</td>
<td>Constant</td>
<td>Change size</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fixation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shifting Attention</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shape Recognition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Color recognition" /></td>
<td>Color recognition</td>
<td>Color Recognition</td>
<td>8</td>
<td>Increasing</td>
<td>Change size</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Visual Memory</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Separation outline" /></td>
<td>Separation outline</td>
<td>Ability to Separate</td>
<td>6</td>
<td>Constant</td>
<td>Change size</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Figure-Ground Perception</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shape Recognition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Search and find" /></td>
<td>Search and find</td>
<td>Search Strategies</td>
<td>10</td>
<td>Increasing</td>
<td>Change size</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shape</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shape Recognition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Visual Memory</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Where is ...?" /></td>
<td>Where is ...?</td>
<td>Search Strategies</td>
<td>6</td>
<td>Increasing</td>
<td>Change size</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shape Recognition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spatial Relations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Visual Memory</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thumbnail</td>
<td>Title</td>
<td>Skill</td>
<td>Tasks</td>
<td>Difficulty</td>
<td>Individualization</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>------------</td>
<td>-------------------</td>
</tr>
<tr>
<td><img src="image1.png" alt="Face interpretation" /></td>
<td>Face interpretation</td>
<td>![Face Perception</td>
<td>Interpretation](image2.png)</td>
<td>10</td>
<td>Constant</td>
</tr>
<tr>
<td><img src="image3.png" alt="Collecting goals" /></td>
<td>Collecting goals</td>
<td><img src="image4.png" alt="Hand and Eye Coordination" /></td>
<td>6</td>
<td>Increasing</td>
<td>Change track width&lt;br&gt;Change track opacity&lt;br&gt;Change type line</td>
</tr>
<tr>
<td><img src="image5.png" alt="Follow an object" /></td>
<td>Follow an object</td>
<td><img src="image6.png" alt="Hand and Eye Coordination" /></td>
<td>8</td>
<td>Increasing</td>
<td>Change line width&lt;br&gt;Change line opacity</td>
</tr>
<tr>
<td><img src="image7.png" alt="Catch an object" /></td>
<td>Catch an object</td>
<td><img src="image8.png" alt="Hand and Eye Coordination" /></td>
<td>10</td>
<td>Increasing</td>
<td>Change line width&lt;br&gt;Change line opacity</td>
</tr>
<tr>
<td><img src="image9.png" alt="Stimulation" /></td>
<td>Stimulation</td>
<td><img src="image10.png" alt="Hand and Eye Coordination" /></td>
<td>1</td>
<td>Constant</td>
<td>Surprise&lt;br&gt;Change opacity</td>
</tr>
<tr>
<td><img src="image11.png" alt="Interactive" /></td>
<td>Interactive</td>
<td><img src="image12.png" alt="Shifting Attention" /></td>
<td>1</td>
<td>Constant</td>
<td></td>
</tr>
<tr>
<td><img src="image13.png" alt="All exercises" /></td>
<td>All exercises</td>
<td></td>
<td></td>
<td></td>
<td>Change background color</td>
</tr>
</tbody>
</table>
3.5 Import exercises from **dob pro**

To the 10 exercises of the basic version, a maximum of 10 exercises can be added. These exercises are provided and exported by **dob pro** users as a QR-Code. If more than 10 exercises are imported, the oldest will be deleted.

3.5.1 Import exercises **dob online**

1. Clic/Tap **Import**
2. Clic/Tap **Select file**
3. Choose the QR-code and confirm the selection

Exercises will be extracted and displayed in the import area.

Note: An image of the QR-Code can actually not be taken and imported by tablet camera.

3.5.2 Import exercises **dob App**

Clic/Tap on **Import** gives access to the code scanner. Move the green frame over the code image. It will automatically be scanned and the exercises will be loaded to in the import area.
3.6 Manage imported files

version online

Display only imported exercises

Display all exercises

Open editing options
Drag the thumbnail with your finger (touchscreen) or mouse to place it wherever you want..

Remove exercise

Exit editing mode
4 Evaluation exercise

While you are working, dob captures any typing and clicks on your computer screen, whether these are right or wrong and measures the time span between any action on the computer screen. A simple click on the button in the main menu will open evaluation settings.

Note: Exercises are not evaluated in module stimula.

4.1 Evaluation settings

![Evaluation settings menu]

Exercise data are stored.

Data are not stored.

Access to the stored evaluations

dob can only store a limited number of exercises. The number depends on the complexity of the data. Take screenshots of important evaluations to store them permanently.
4.2 General options

<table>
<thead>
<tr>
<th>Personal notes</th>
<th>Date and time</th>
<th>Total Duration: Time per complete exercise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jacob / identified all shapes</td>
<td>2016-08-24</td>
<td>40.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sum Tasks: Duration minus the time for confirmations and rewards = pure exercise time</td>
</tr>
</tbody>
</table>

Task list

<table>
<thead>
<tr>
<th>Task</th>
<th>Duration</th>
<th>Error after [sec]</th>
<th>Correct after [sec]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.00</td>
<td>4.4</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1.00</td>
<td>6.1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1.00</td>
<td>6.0</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1.00</td>
<td>7.1</td>
<td></td>
</tr>
</tbody>
</table>

Average time per task

Notes, objects and values

Activities on the screen
4.3 Evaluation examples

Depending on module or exercise category, evaluation shows different values and presents the activities on a single or on several screens.

4.3.1 Evaluation 1: Module spot – Gaze Switching horizontal

Personal notes

<table>
<thead>
<tr>
<th>Task / Opacity / Time between beginning task and click / Thumbnail object</th>
</tr>
</thead>
<tbody>
<tr>
<td>Click outside any object (error time)</td>
</tr>
</tbody>
</table>

Task 2:
2 Clicks on the left side underneath the object

Task 12:
2 Clicks on the left side above the object

Observations and interpretations

- Needs much more time for objects at the right edge of the screen.
- At the right side many clicks outside the objects.
- Restrictions of the visual field?

The activities on the screen are displayed on one screen for following exercise categories:
- Fixation *spot*
- Gaze Switching *spot*
- Visual Field *spot, spotPlus*
4.3.2 Evaluation 2: Module spotPlus – Search and find shape

Personal notes

Task / Time until click on the correct object / Object

Time until click on the wrong object / Object
Task 3, 5, 8: Click on the wrong object

Time until click outside the object
Task 7: 2 clicks beside object

Skipped task (SPACE)
Task 9 and 10: breaking off

Observations and interpretations
- Confuses shapes (filled square with frame)
- No systematic search
- Overwhelmed with increasing number of objects
- Practice search strategies

Activities are displayed on 6 screens. Exercises with more than 6 tasks share clicks of several tasks (e.g. task 1 and 2) on one screen.
4.3.3 Evaluation 3: Module zoom – Contrast

Personal notes

Task / Opacity: Change from 0 to 100% /
Opacity when clicking
Time until click / Object
For example task 3:
Object detected at 70% opacity after 7 seconds

Clicks outside object
Task 2 and 9: One click outside object

Observations and interpretations
• Enjoys working with emoticons
• Can interpret facial expressions
• Faster detection of objects on the left side
• Restrictions of the visual field?

Activities are displayed on 6 screens.
Exercises with more than 6 tasks share clicks of several tasks (e.g. task 5 and 6) on one screen.
4.3.4 Evaluation 4: Module track – Collecting goals

Personal notes

<table>
<thead>
<tr>
<th>Jacob / Difficulties with movements away from and towards the body</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
</tr>
<tr>
<td>------------</td>
</tr>
<tr>
<td>2016-08-24</td>
</tr>
</tbody>
</table>

Task / Time until reaching the target

Task 1: No collision

Time until collision

Task 2: Collided after 5.8 and 9.4 seconds on vertically mounted track. Reached target at 15.3 seconds.

<table>
<thead>
<tr>
<th>Task / Number of Hits</th>
<th>Hit after [sec]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9.6</td>
</tr>
<tr>
<td>2</td>
<td>5.8 9.4 15.3</td>
</tr>
<tr>
<td>3</td>
<td>7.9 10.0 21.6</td>
</tr>
<tr>
<td>4</td>
<td>7.1 8.4 14.5 17.3 21.2</td>
</tr>
<tr>
<td>5</td>
<td>4.8 6.5 8.2 24.0</td>
</tr>
<tr>
<td>6</td>
<td>13.4 14.6 20.6</td>
</tr>
</tbody>
</table>

Task Duration

Average [sec] 18.7

Observations and interpretations
- Knows the collected objects
- Increasing muscle spasms
- Difficulties with movements away from and towards the body

The 6 tasks can be displayed on six different screens.
5 Versions

dob is available as iOS application or as an online version.

<table>
<thead>
<tr>
<th></th>
<th>App version</th>
<th>Online version</th>
</tr>
</thead>
<tbody>
<tr>
<td>License</td>
<td>Perpetual license</td>
<td>Annual license</td>
</tr>
<tr>
<td>Use</td>
<td>Local</td>
<td>Via Internet</td>
</tr>
<tr>
<td>Program control</td>
<td>By gestures</td>
<td>With shortcut keys</td>
</tr>
<tr>
<td></td>
<td>Supports shortcut keys with external</td>
<td>If a touchscreen is available:</td>
</tr>
<tr>
<td></td>
<td>bluetooth keyboard</td>
<td>with shortcut keys and gestures</td>
</tr>
<tr>
<td>Individualization</td>
<td>Limited possibilities</td>
<td>Extended possibilities</td>
</tr>
<tr>
<td>within the exercises</td>
<td>Control by gestures</td>
<td>With shortcut keys (and gestures)</td>
</tr>
</tbody>
</table>

The upgrade to dob* version via in-app purchase will enable the use of the entire set of exercises. It covers about 2000 exercises sorted by visual skill or module.

**dob pro**

Full version for therapists, coaches and teachers, containing more than 2000 exercises for the training and observation of 11 basic visual skills and tools to assist individual support planning. Available as an App/application for iOS devices and also as an online version.

Learn more about dob and dob pro: [www.dob.li](http://www.dob.li)
6 Thanks

The development of dob was made possible thanks to the generosity of the following institutions:

- Blinden-Leuchtturm Zürich
- Ella Gattiker-Liechti-Stiftung
- Ernst Göhner Stiftung
- Hans Konrad Rahn Stiftung
- Rahn + Bodmer Co.
- Roches-Utiger Stiftung
- Schweizerischer Blinden- und Sehbehindertenverband SBV
- Stiftung für blinde und sehbehinderte Kinder und Jugendliche Zollikofen
- Stiftung für das behinderte Kind
- Stiftung Solidago
- visoparents schweiz
7 Note

Photosensitive Warning
A very small percentage of individuals may experience epileptic seizures when exposed to certain light patterns or flashing lights. Exposure to certain patterns or backgrounds on a computer screen may induce an epileptic seizure in these individuals. Certain conditions may induce previously undetected epileptic symptoms even in persons who have no history of prior seizures or epilepsy.

8 Copyright
The content of this document is copyright reserved. Reproduction and distribution of information and data, in particular the use of texts (in full or in part) or pictures, requires the previous permission of the author.