

# Designing Interactive Systems I

## Lab 5: A04, Visual Design

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<https://hci.rwth-aachen.de/dis>



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# General Remarks

- Please read up on the definitions/examples in the book and the lecture before contacting us with questions regarding our grading
- Never feel bad for asking us questions
- Be mindful in your review of example documents, devices, and software in the real world. This is still the work of somebody else. Provide help with your knowledge instead of bashing their work
- Please provide high resolution images
- Be quiet when observing users during a study. Only help when asked

# Assignment 04



# Knowledge in the Head vs. In the World

The video “**Computing Average in Spreadsheet.mp4**” (attached with this assignment) shows a user using Numbers, a spreadsheet application, on macOS to find the average of a column. The blue box shows the user’s keyboard input. For this task, identify **three instances each** for knowledge in the world and knowledge in the head. Redesign the interface to lessen the user’s memory load by moving one or more entities of knowledge in the head to the world.

Exam results: Aachen

## Results: DIS exam (out of 60 pts.)

Student Name	Points
Adrian	23,9
Krishna	45,8
Nur	43,0
Anke	40,0
Marcel	12,0
Jan	50,0
Sebastian	45,0
<b>Total</b>	



Functions

- Search
- All
  - Recent
  - Date and Time
  - Duration
  - Engineering
  - Financial
  - Logical & Info
  - Numeric
  - Reference
  - Statistical
  - Text
  - Trigonometric
- AVEDEV
  - AVERAGE
  - AVERAGEA
  - AVERAGEIF
  - AVERAGEIFS
  - BETADIST
  - BETAINV
  - BINOMDIST
  - CHIDIST
  - CHIINV
  - CHITEST
  - CONFIDENCE
  - CORREL
- Insert Function

**fx AVERAGE**

The AVERAGE function returns the average (arithmetic mean) of a set of numbers.

AVERAGE(value, value...)

- value: A single value or collection. Each value must be a number value, date/time value, or duration value. All values must be of the same value type.
- value...: Optionally include one or more additional values or collections of values.

**Notes**

- AVERAGE divides the sum of the numbers by the number of numbers.
- A string value or boolean value included in a referenced cell is ignored. If you wish to include string and boolean values in the average, use the AVERAGEA function.

**Examples**

=AVERAGE(4, 4, 4, 6, 6, 6) returns 5.

=AVERAGE(2, 2, 2, 2, 3, 3, 3, 3, 4, 4, 4) returns 3.

=AVERAGE("3d", "6d", "4d", "7d") returns 5d, a duration value.

=AVERAGE("12/1/2010", "12/31/2011", "9/30/2013") returns Mar 21, 2012 08:00, a date/time value.

# Errors - Mistakes & Slips

- In the lecture and the Norman book, you learnt about mistakes, which often occur as a result of conscious thinking. Perform the following:
  - a. Identify an app on a computing device (i.e., desktop or mobile) that you have had difficulty using in the past.
  - b. Find one or more users who have not used the app before. Like A02 and A03, make sure that these users (a) are representative of the target users for the app (i.e., assuming you are using Excel, users should be familiar with the basic functionalities like using functions or creating charts) and (b) are not members of your group.
  - c. Identify a task that you believe is difficult. Then, ask each user to perform this task until a user commits a mistake. Once you find that a user has committed a mistake, you do not have recruit any more users.
  - d. Record videos of users performing the task and then apply retrospective testing to identify what caused the mistake: Was there a problem in the execution (plan, specify) or in the evaluation (interpret, compare)? Retrospective testing is an evaluation technique where you let the user work with your system in an uninterrupted manner and then, after the session, you go with the user through the video/audio logs and talk about the what happened to understand the user's mental model.
  - e. Redesign the app interface to 1) minimize the chances of the mistake occurring in the future and 2) minimize the implications of the mistake. You can do this by designing for error, i.e., applying the appropriate design principle(s).

# Output Settings

Container **MKV** ▼

- Picture
- Filters
- Video**
- Audio
- Subtitles
- Chapters
- Advanced

## Video

Video Codec: **H.264 (x264)** ▼

Framerate (FPS): **Same as source** ▼

- Constant Framerate
- Variable Framerate

## Optimise Video:

Use Advanced Tab instead

Encoder Preset:  **Medium**

Encoder Tune: **None** ▼  Fast Decode

Encoder Profile: **Main** ▼ Encoder Level **Auto** ▼

Extra Options:

## Quality

Constant Quality: **18** **RF**



| Lower Quality | **Placebo Quality** |

Avg Bitrate (kbps):

- 2-Pass Encoding
- Turbo first pass



**DE:** Kleinere Verringerungen der Werte führen zu einer fortschreitenden Vergrößerung der resultierenden Dateigröße

**EN:** Smaller decrements of the values lead to a progressing incrementation of the resulting file size



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# Visual Design

