

blubble

Usability Testing





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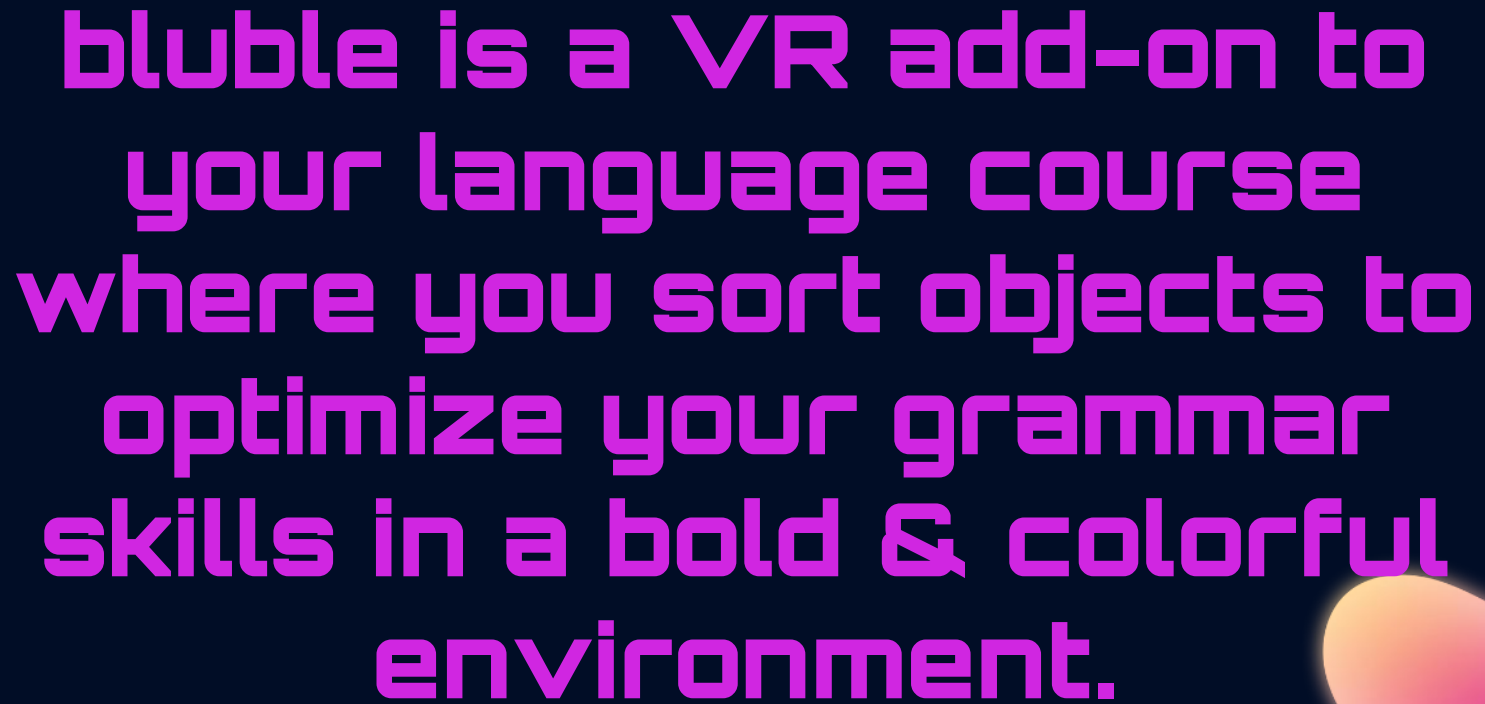
UEQ





01

Our idea



bluble is a VR add-on to
your language course
where you sort objects to
optimize your grammar
skills in a bold & colorful
environment.



02

Study conduct

Study conduct

5 different test players
[3 native speakers, 2
non-native speakers with A1
German knowledge]

2 game runs after brief
introduction

Two different sets of words,
2 players worked with set 1,
3 players worked with set
two

Order within the sets
randomized

Measuring of playtime and
score for each run

General interview questions,
motion sickness
questionnaire, UEQ



03

General feedback



Overall feedback

- **Fun game**
- **Design, setting and sound is fitting**
- Playing is intuitive
- Good pace of the game
- **Would play the game again and use it as an addition for their in-person language course**
- **Nice gamification of boring vocab training**



Improvements

- **Buckets need more spacing in the beginning**
- Pulling of the bubbles is too slow → Speeding up the movement
- **Interaction with bubbles in the overview unnecessary**
- **Speed of the bubbles should increase after some time**
- Crystals with “der”, “die”, and “das” could be designed in different colors
→ more distinguishable
- More dark color accents
- Music a bit too loud
- Pause and play button
- Score with right words
- Text is not readable when the bubbles are rotating



Additional features

- Tutorial on controllers in the beginning
- Multiplayer competitive mode
- Different difficulty levels
- More grammatical structures for playing
- **Correct solution when answer is wrong**
- **Availability for more languages**
- Wrong words should come again during the same game run
- In-game currency, reward for daily playing
- Export function → wrong words in a document



Run comparison

Overall tendency for improvement, for two players the values worsened at 2nd run mainly due to problems with article indicators [fell down/sideways] & pace

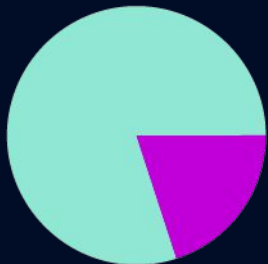
+2	-	-2	+2	+8	16,4 vs 18,4
-20 sec	+10 sec	+6 sec	-2 sec	-8 sec	1:19 vs 1:16
P1	P2	P3	P4	P5	Average



04

Motion sickness

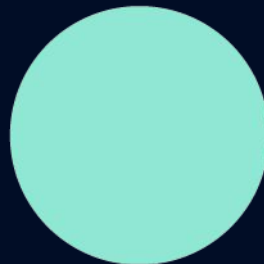
**General
discomfort**



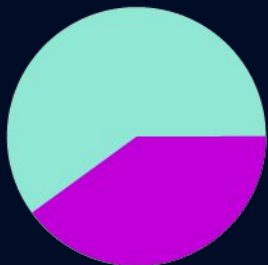
Fatigue



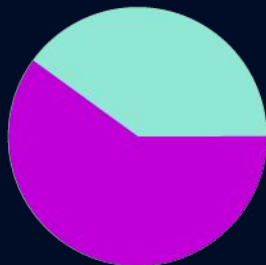
Headache



Eye strain



**Difficulty
focusing**

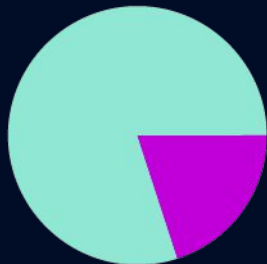


None

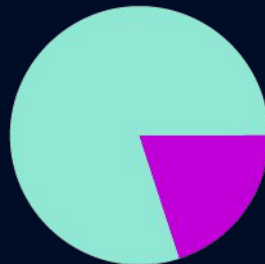


Slight

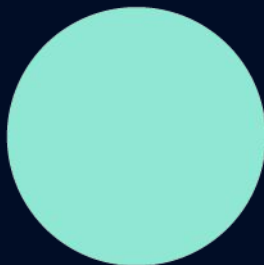
**Fullness of
the head**



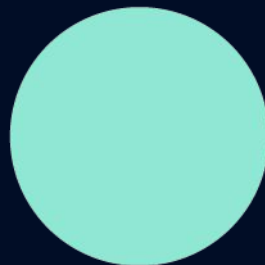
**Blurred
vision**



**Dizziness with
the eyes closed**



Vertigo



None



Slight



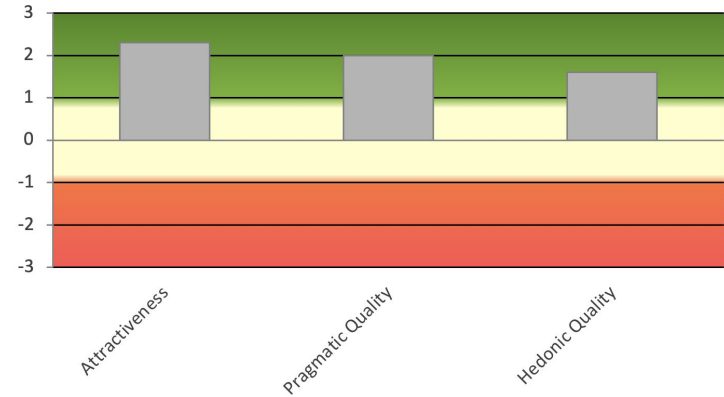
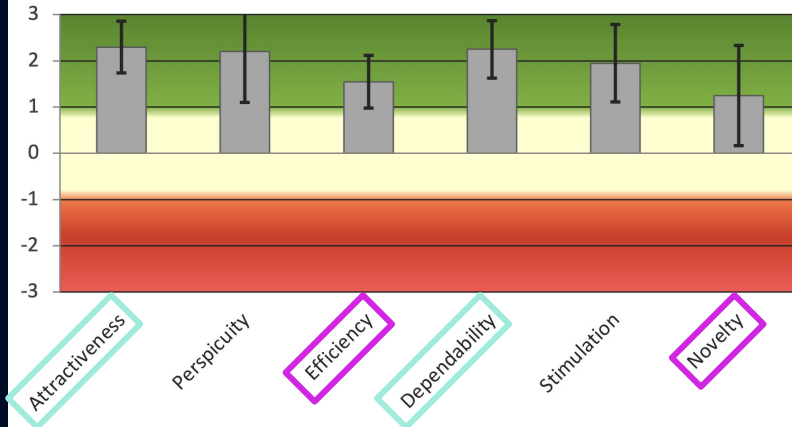
05

UEQ

UEQ Results

UEQ Scales (Mean, Variance & Alpha)

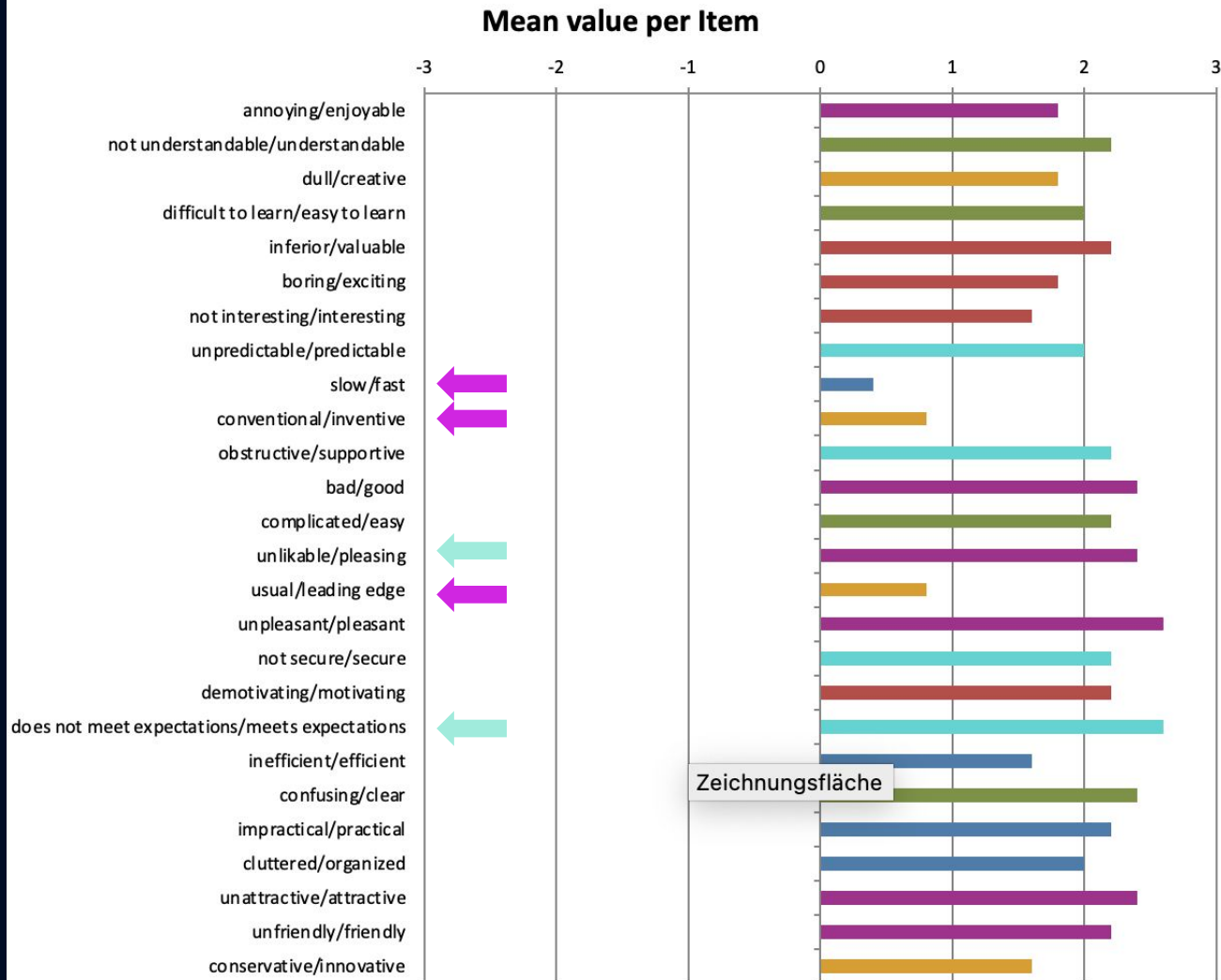
Attractiveness	↑ 2,300	0,41	0,96
Perspicuity	↑ 2,200	1,58	0,91
Efficiency	↑ 1,550	0,42	0,56
Dependability	↑ 2,250	0,50	0,87
Stimulation	↑ 1,950	0,92	0,92
Novelty	↑ 1,250	1,53	0,74





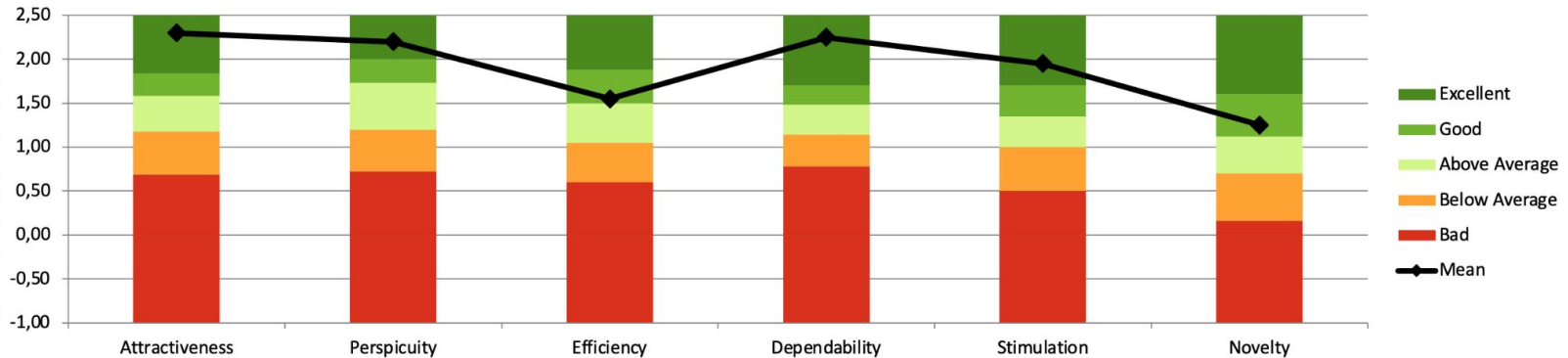
UEQ Items




- **Efficiency:** Slow/fast rather neutral (low internal consistency)
- **Novelty:** Lower values for leading edge & inventive
- **Attractiveness & Dependability:** High values for pleasing & meeting expectations



UEQ Benchmark

Scale	Mean	Comparison to benchmark	Interpretation
Attractiveness	2,30	Excellent	In the range of the 10% best results
Perspicuity	2,20	Excellent	In the range of the 10% best results
Efficiency	1,55	Good	10% of results better, 75% of results worse
Dependability	2,25	Excellent	In the range of the 10% best results
Stimulation	1,95	Excellent	In the range of the 10% best results
Novelty	1,25	Good	10% of results better, 75% of results worse





Conclusion & Questions