

Requirement Analysis

About the System

The web application is a tool that can be used to record synesthetic grapheme-color associations. Participants will see certain symbols that evoke synesthetic reactions, for example their native alphabet, and are able to connect them to a color of their own choice. Information about every survey will be kept in a database, making it easily available for researchers to gain credible resources. Simplicity and lightweight are focus points when designing the web application. It will be accessible to everyone who desires to use it, free of charge and usable with latest browsers.

Evaluation of resources

Working applications are used for evaluation as well as important notes from associates within the field of study.

Windows application

An application that is currently in use by researchers is used to evaluate features and methods. The application is split up into 2 different programs, a screening software and a data viewer. A researcher has to configure a session via text files before presenting it to a participant. The data produced by the screening software is added to CSV files which are then handled by the data viewer.

Pros

Simple participant interface

Detailed color picker

Cons

Complicated researcher interface

Slow

Prone to human error

The Synesthesia Battery

The synesthesia battery provides an application that can be used with the expensive MATLAB environment. There are various tests available, for example graphemes and sounds connected to colors.

Pros

High detail

Various programs

Cons

Expensive

Notes from associates

Important points regarding the system that will be useful.

User Groups

The system could be used by researchers and participants across the world.

User group	Background	System usage	Environment	Main goals
Admin	Education: Degree in Computer Science or similar fields. Computer skills: Above average	Training: Required % of userbase: Less than 5%	Technical environment: Desktop computer / laptop	<ul style="list-style-type: none">• Maintain database
Researcher	Education: Degree in Psychology or similar fields. Computer skills: Average	Training: Not required, but optimal % of userbase: About 10%	Technical environment: Desktop computer / laptop / tablet	<ul style="list-style-type: none">• Create surveys• Send surveys to participants• View results• Download research data
Participant	Computer skills: Below average	Training: Not required % of userbase: About 85%	Technical environment: Desktop computer / laptop / tablet / mobile	<ul style="list-style-type: none">• Complete surveys• View results

Requirement list

This requirement list resembles the main features to be available in the upcoming system.

The requirements are sorted by priorities.

Priorities	
A	Absolutely essential
B	Useful, but not mission critical
C	Nice to have

Functional requirements

Number	Description	Priority
1	Participant can pick his desired alphabet	A
2	Output of a single survey is available	A
3	Participant can pick a color when he is presented with a symbol	A
4	Researcher can create a template for survey	B
5	Participant can choose to send his result via e-mail	B

6	User can log in	B
7	User can view all of his surveys and results	B
8	Participant can do a tutorial of a survey	C
9	Researcher can download survey results as CSV	B
10	Researcher can edit alphabets	B
11	Researcher can choose font for the alphabet	B
12	Researcher can choose background for the alphabet	B
13	Researcher can choose flag image for the alphabet	C
14	Researcher can archive an alphabet	A
15	The color value changes each iteration	A
16	The color picker rotates each iteration	B
17	Researcher can promote user to a researcher	B

Non-functional requirements

Number	Description	Priority
1	The system supports all main web browsers (Chrome, Safari, Firefox, Opera, Internet Explorer and Edge).	A
2	The system has to adjust to the screen resolution.	A
3	The system is easy to use and does not require system training.	A
4	The system is safe to use.	A
5	The system must be usable on multiple devices, laptops, desktops and tablets.	A
6	The web page is presented in multiple languages	C
7	The system is usable on smartphones	C

Rules

The general rules that apply for the system will be described below. Note that this is not a complete list and that it will probably change and expand during the development process.

Alphabets can not contain the same symbol more than once!
Researchers have to be logged in to be able to create alphabets
Researchers have to be logged in to be able to promote other users