



Project Presentation

Agenda

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**02. PPST
Simulation**

03. Spreadsheet

04. Login Page

Agenda Cont

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07. Conclusion



01.

Project Introduction

Project Introduction

Summary:

- Assess cognitive functions
- User friendly digital test
 - Efficient calculations and metric tracking
- Doctor management of patient tests/data

Business Value:

- Digitization of test
- Increased accessibility
- Aggregated data



02.

PPST

Simulation

PPST Simulation

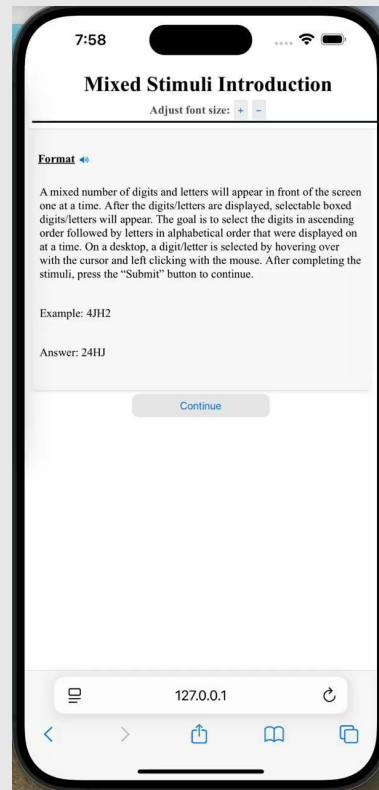
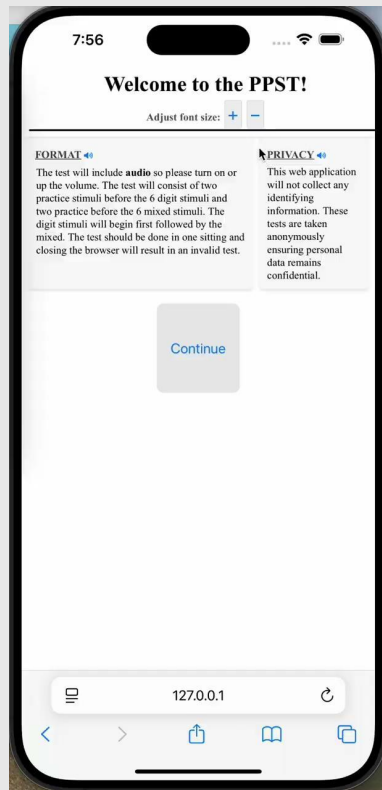
Project Spec Features:

- User-Friendly Interface
- Consistent User Experience across screen resolutions
- Stimuli presented both visually and auditorily
- Invalidity
- Test will record the latency/answer

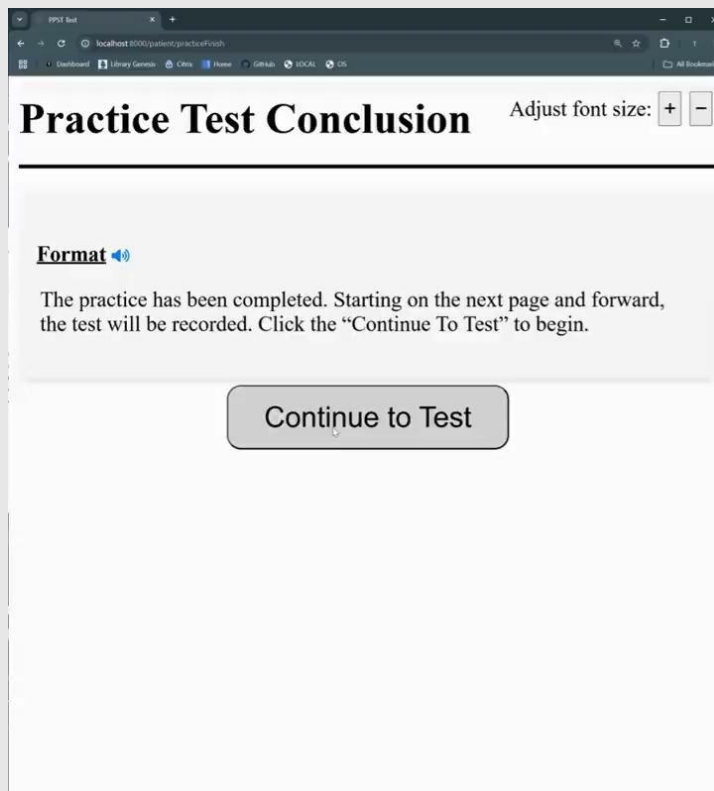
Approach Taken:

- Contrasting colors enable distinctions between text and buttons
- Size of texts/buttons scale off of screen resolution
- Font size can be decreased or increased with a button
- Text boxes offer text-to-speech and the stimuli will automatically play audio to improve accessibility
- Test will be marked invalid if the patient switches the page without using the “Continue” button, tabbing out, and refreshing
- The results will be saved to the database after the test is completed

PPST on a Phone



PPST Simulation





03.

Spreadsheet

Raw Data

[illegible]

Raw Data 2

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Test Type	Correct Answer	Patient Answer	Latency 1	Latency 2	Latency 3	Latency 4	Latency 5	Duration	Score	Start Time	End Time		
Practice Digit 4 span	3568	3568	2.39	2.11	3.18	4.14		11.82	1	2022-12-07 23:20:32	2022-12-07 23:20:44		
Practice Digit 5 span	34589	34379	2.6	1.43	0.42	1.26	1.13	6.84	0.6	2022-12-07 23:20:44	2022-12-07 23:20:51		
First digit 4 span	2345	2345	2.39	2.11	3.18	4.14		11.82	1	2022-12-07 23:20:51	2022-12-07 23:21:02		
Second digit 4 span	4568	4563	2.39	2.11	3.18	4.14		11.82	0.75	2022-12-07 23:21:02	2022-12-07 23:21:14		
Third digit 4 span	2349	2344	2.39	2.11	3.18	4.14		11.82	0.75	2022-12-07 23:21:14	2022-12-07 23:21:26		
First digit 5 span	34568	33568	2.6	1.43	0.42	1.26	1.13	6.84	0.8	2022-12-07 23:21:26	2022-12-07 23:21:33		
Second digit 5 span	26789	26889	2.6	1.43	0.42	1.26	1.13	6.84	0.8	2022-12-07 23:21:33	2022-12-07 23:21:40		
Third digit 5 span	34589	34569	2.6	1.43	0.42	1.26	1.13	6.84	0.8	2022-12-07 23:21:40	2022-12-07 23:21:47		
Practice mixed 4 span	37FK	3JFK	2.8	1.02	1.71	2.28		7.81	0.75	2022-12-07 23:21:47	2022-12-07 23:21:54		
Practice mixed 5 span	37JRU	37JRK	4.19	1.8	1.35	1.5	2.73	11.58	0.8	2022-12-07 23:21:54	2022-12-07 23:22:06		
First mixed 4 span	45KW	4KKW	2.8	1.02	1.71	2.28		7.81	0.75	2022-12-07 23:22:06	2022-12-07 23:22:14		
Second mixed 4 span	47RW	47R6	2.8	1.02	1.71	2.28		7.81	0.75	2022-12-07 23:22:14	2022-12-07 23:22:22		
Third mixed 4 span	48FS	486S	2.8	1.02	1.71	2.28		7.81	0.75	2022-12-07 23:22:22	2022-12-07 23:22:29		
First mixed 5 span	45JRY	4FJSY	4.19	1.8	1.35	1.5	2.73	11.58	0.6	2022-12-07 23:22:29	2022-12-07 23:22:41		
Second mixed 5 span	46RUY	46RUY	4.19	1.8	1.35	1.5	2.73	11.58	1	2022-12-07 23:22:41	2022-12-07 23:22:53		
Third mixed 5 span	48KSW	48KSR	4.19	1.8	1.35	1.5	2.73	11.58	0.8	2022-12-07 23:22:53	2022-12-07 23:23:04		
Standard Deviation Legend:													
>= 2 Standard Deviations													
>= 1 Standard Deviations													
-0.5 Standard Deviations													
>= -1 Standard Deviations													
>= -2 Standard Deviations													
< -2 Standard Deviations													
4 Span Score	5 Span Score	Difference											
0.75	0.8	0.01											
4 Digit Score	5 Digit Score	Difference											
0.75	0.8	-0.03											
4 Mixed Score	5 Mixed Score	Difference											
0.75	0.8	0.05											
Span Comparison Legend													
Positive Difference													
Negative Difference													

Raw Data

Raw Data 2

Aggregate Info

Time Graphs

Serial Score Graphs

Unordered Score Graphs

Response Posit

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Aggregate Info

	A	B	C	D	E	F	G	H	I	J
1	Time									
2	Field	Latency 1	Latency 2	Latency 3	Latency 4	Latency 5	Duration Per Test	Duration Whole Test		
3	Patient	2.99	1.59	1.67	2.3	1.93	9.51	114.15		
4	Aggregate	2.65	1.48	2.64	2.51	1.23	9.89	118.71		
5	Std	0.55	0.33	0.92	0.74	0.57	1.49	17.88		
6	Z-Score	0.63	0.35	-1.05	-0.29	2.13	-0.26	-0.26		
7										
8										
9	Serial Score									
10	Field	4 Span Digit	4 Span Mixed	5 Span Digit	5 Span Mixed	4 Span	5 Span	Digit	Mixed	Overall
11	Patient	0.83	0.75	0.8	0.8	0.79	0.8	0.82	0.78	0.8
12	Aggregate	0.93	0.81	0.83	0.73	0.87	0.78	0.88	0.77	0.82
13	Std	0.06	0.06	0.05	0.08	0.05	0.05	0.05	0.05	0.04
14	Z-Score	-1.57	-0.89	-0.59	0.86	-1.51	0.44	-1.32	0.17	-0.69
15										
16										
17	Unordered Score									
18	Field	4 Span Digit	4 Span Mixed	5 Span Digit	5 Span Mixed	4 Span	5 Span	Digit	Mixed	Overall
19	Patient	0.83	0.75	0.8	0.87	0.79	0.83	0.82	0.81	0.81
20	Aggregate	0.93	0.81	0.83	0.75	0.87	0.79	0.88	0.78	0.83
21	Std	0.06	0.06	0.05	0.08	0.05	0.05	0.05	0.05	0.04
22	Z-Score	-1.57	-0.89	-0.59	1.51	-1.51	1.0	-1.32	0.64	-0.41
23										
24										
25	Response Position Score									
26	Field	Position 1	Position 2	Position 3	Position 4	Position 5				
27	Patient	1.0	0.75	0.83	0.58	0.83				
28	Aggregate	0.85	0.84	0.85	0.78	0.72				
29	Std	0.09	0.11	0.1	0.11	0.2				
30	Z-Score	1.61	-0.8	-0.17	-1.74	0.57				
31										
32										
33	Standard Deviation Legend:									
34	≥ 2 Standard Deviations									
35	≥ 1 Standard Deviations									
36	0 Standard Deviations									
37	≥ -1 Standard Deviations									
38	≥ -2 Standard Deviations									
39	≤ -2 Standard Deviations									
40										
41										
42										
43										

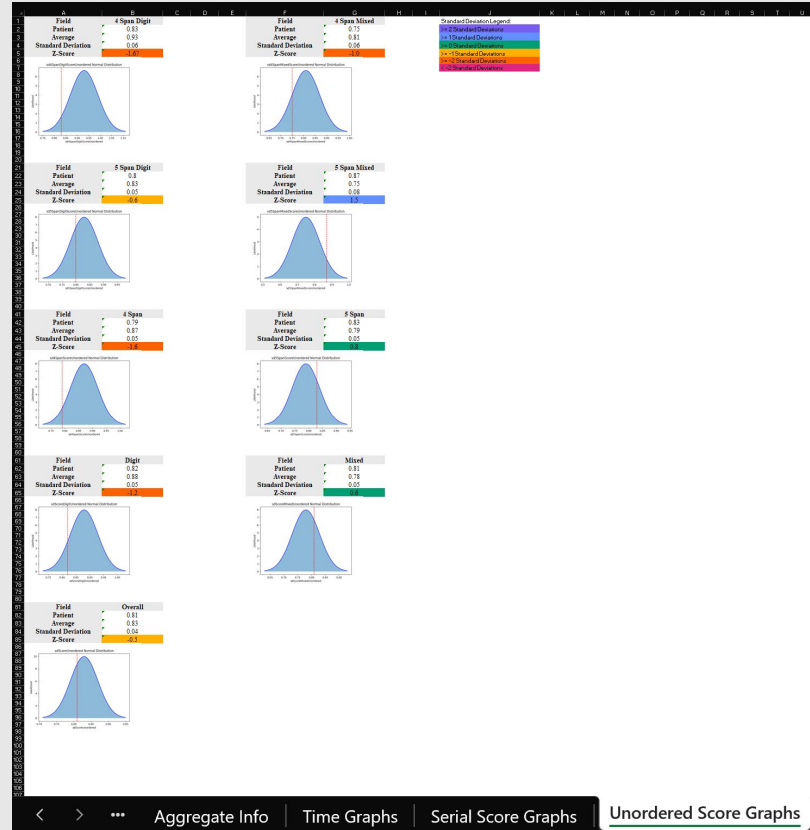
Time Graphs



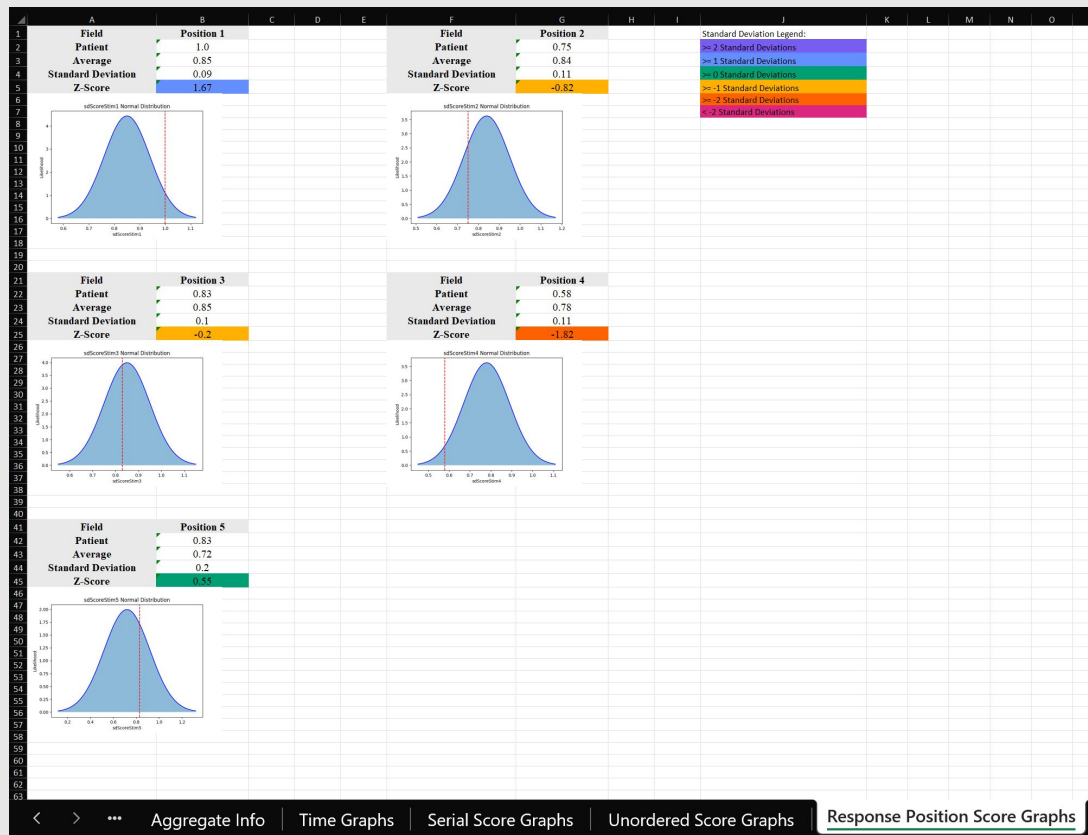
Serial Score Graphs



Unordered Score Graphs



Response Position Score Graphs



Aggregate Info

Time Graphs

Serial Score Graphs

Unordered Score Graphs

Response Position Score Graphs

Spreadsheet

Project Spec Features:

- Downloadable spreadsheet.
- Aggregated data is generated and added to the spreadsheet upon download.
- Tables regarding patient's test info is on the spreadsheet.
- Doctor has sheets with visual indications of patient's statistics.

Approach Taken:

- Graphs are generated from the patient's data and compared to the aggregated data for their age range when the spreadsheet is downloaded.
- Raw Data tables are generated from the patient's Results Table and Latency table.
- The remaining sheets are generated from utilizing average data for their age range as well as the average for how the patient did on each test type.



04.

Login Page

Login Page

Project Spec Features:

- Each test giver will be able to log in using a username and password to access their patients' results

Approach Taken:

- Django's User model
- HTMX



The image shows a mockup of a login page. On the left, a blue rounded rectangle contains the text "Stat-Link Login" in white. To the right, there is a light blue background area containing a login form. The form has two input fields: "Username" and "Password". Below these fields are two buttons: "Login" and "Signup". Below the buttons, the text "Invalid Credentials" is displayed in red.

Stat-Link Login

Username

Password

Login **Signup**

Invalid Credentials



05.

Manage Test Links

Manage Test Links

Project Spec Features:

- Allows doctors to generate links for their patients.
- Provides an interface to interact with the database and view or retrieve information recorded from taken tests.
- Acts as a “self service” providing the doctor information needed to make patient assessments.

Approach Taken:

- Contains actions to generate new test links and administration functionality. E.g deletion, generation, and viewing information.
- The doctor provides an age on link generation for specific data comparison during spreadsheet generation.
- Patient data is available on demand through UI and it serviced at the time of the request. This can be compiling data for a spreadsheet and sending the created file to the user or redirecting to the view data page for a specific test.

Manage Test Links In Practice

The screenshot shows a web browser window with the URL `127.0.0.1:8000/doctor/manageTestLinks/`. The page has a light blue header with the text "Welcome, Doctor Who!" and a "Logout" button. Below the header is a section titled "Manage PPST Test Links" with a list of links. Each link entry includes a "Copy Link" button and a status indicator. The links are:

- Link: 00005: Copy Link, Complete
- Link: 00101: Copy Link, Pending
- Link: 00103: Copy Link, Pending
- Link: 00007: Copy Link, Pending
- Link: 00018: Copy Link, Test Invalidated

On the right side of the page, there is a "Generate Test Link" button and a list of "Download" and "View" buttons.

Overlaid on the web browser is an OBS Studio window. The OBS window shows a "Scene" collection with a "Scene" selected. The "Sources" panel shows "Display Capture" selected. The "Audio Mixer" panel shows "Desktop Audio" and "Mic/Aux" levels. The "Scene Transitions" panel shows a "Fade" transition with a duration of 300 ms. The "Controls" panel shows buttons for "Start Streaming", "Stop Recording", "Start Virtual Camera", "Studio Mode", "Settings", and "Exit". The "Stop Recording" button is highlighted with a mouse cursor.

The Windows taskbar at the bottom shows the time as 8:20 AM on 11/21/2024.



06.

View Data Page

View Data Page


Project Spec Features:

- Data Visualization - examine statistics by age bracket, including percentile, average, standard deviation, and a bell curve graph.

Approach Taken:

- Matplotlib in conjunction with mpld3 allows for the display of a graph as an image
- Utilizing the current link ID, current test summary data is available to view.
- Aggregate data from the proper age bracket is viewable from the aggregate data table.
- Dropdown menu allows for comparison between current test and aggregate based on variable selected

View Data Page

Welcome, Doctor Doom!					Logout
Manage PPST Test Links 					Generate Test Link
Link: 00001	Copy Link	Complete	Delete	Download	View
Link: 00003	Copy Link	Complete	Delete	Download	View
Link: 00007	Copy Link	Complete	Delete	Download	View
Link: 00011	Copy Link	Complete	Delete	Download	View
Link: 00012	Copy Link	Complete	Delete	Download	View
Link: 00015	Copy Link	Complete	Delete	Download	View
Link: 00022	Copy Link	Complete	Delete	Download	View
Link: 00025	Copy Link	Complete	Delete	Download	View



07.

Conclusion

Conclusion

Summary Key Features:

- In depth downloadable spreadsheet
- Dynamic view of data in graphs
- Friendly and customizable UI
- Easy management of test links by doctors