Psychometric Test Suite

This Psychometric Test Suite is a web application designed to administer and score multiple standardized questionnaires—HADS, STAI-S, STAI-T, BFI, and FQ—in one streamlined system. It combines a user-friendly interface, robust data handling, and automated output generation in both CSV and PDF formats.

System Overview

Framework:

1. **Front-End:** HTML, CSS (Bootstrap), JavaScript, jQuery, Django
2. **Reporting:** jsPDF for PDF, built-in logic for CSV export

Architecture:

1. **Start/Next Button** – Initiates the first test and progresses through each question.
2. **Test & Question Loading** – Dynamically loads test instructions and question content from a predefined JavaScript array (tests).
3. **Answer Capture** – Stores selected answers and time spent answering in an answers array.
4. **Progress Bar** – Reflects how many questions have been completed out of the total.
5. **Results Export** – One-click download in CSV (raw data) or PDF (summary & details)

Tests Administered

Test	Domains Measured	No	Scoring Highlights
HADS	Anxiety and Depression	14	Separate subscales for Anxiety & Depression
STAI-S	State Anxiety (current feelings)	20	Single total score
STAI-T	Trait Anxiety (general feelings)	20	Single total score
BFI	Big Five personality traits (O, C, E, A, N)	10	Per-trait (Openness, Conscientiousness, etc.)
FQ	Fear and phobias (agoraphobia, social, etc.)	24	Subscales for phobia categories & anxiety/depression

Scoring Calculations

Below is a concise scoring reference with item numbers for each questionnaire. Adjust if your specific version labels items differently.

Hospital Anxiety and Depression Scale (HADS)

1. **Items**: 14 (numbered 1–14)
2. **Anxiety Subscale**: Items 1, 3, 5, 7, 9, 11, 13
3. **Depression Subscale**: Items 2, 4, 6, 8, 10, 12, 14
4. **Scoring**: Each item ranges 0–3. Sum each subscale (range 0–21). Common cutoffs:
   a. 0–7: Normal
   b. 8–10: Borderline
   c. 11–21: Abnormal

State-Trait Anxiety Inventory (STAI)

STAI-S (State Anxiety): 20 items (often labeled 1–20)

1. Reverse-score specific positively worded items (for example, those like "I feel calm") using $5 - x$.
2. Sum all 20 item scores (range 20–80).

STAI-T (Trait Anxiety): 20 items (often labeled 21–40)

1. Reverse-score the designated items using $5 - x$.
2. Sum for a total of 20–80.

Big Five Inventory (BFI), 10-item Version

1. **Items**: 10 (numbered 1–10)
2. **Traits**: Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness
3. **Scoring**: Each trait has 2 items; one is reverse keyed ($6 - x$). Sum or average each pair:
   a. Sum: 2–10 per trait
   b. Average: 1–5 per trait

Fear Questionnaire (FQ)

Items: 24 (numbered 1–24), each 0–8

Scoring:

1. Main Phobia Avoidance: Item 1 (range 0–8).

2. Total Phobia Score: Sum Items 2–16 (range 0–120).

3. Subscales (each 5 items, each range 0–40):

   a. Agoraphobia: Items 5, 6, 8, 12, 15

   b. Blood/Injury: Items 2, 4, 10, 13, 16

   c. Social: Items 3, 7, 9, 11, 14

4. Global Phobia Rating: Item 18 (range 0–8).

5. Associated Anxiety/Depression: Sum Items 19–24 (range 0–40).

Data Capture & Storage

1. **Answer Data Structure:** Each response is stored as an object containing:

2. **Test Name** (e.g., "HADS", "STAI-S")

3. **Question** text

4. **Selected Option** and corresponding numeric **Score**

5. **Time Spent** on the question (in seconds)

6. **Timestamps** for question start (questionStartTime) and answer submission (answerTime)

Score Calculation & Output

1. **Automatic Scoring:** Each test has unique scoring logic. For example, HADS has Anxiety and Depression sub scores; BFI accumulates points per trait (Openness, Conscientiousness, Extraversion, Agreeableness, Neuroticism).

2. **CSV Output:** Generates a comma-separated file with all raw responses (test name, question text, selected option, time spent, timestamps).

3. **PDF Output:** Summarizes key scores per questionnaire (including subscale totals) and lists each response in detail, ensuring a professional, ready-to-print report.

Conclusion

This Psychometric Test Suite offers an elegant, centralized solution for administering multiple validated instruments in a single session. By automating data collection, scoring, and result export, it reduces manual overhead and potential errors. The intuitive design, progress feedback, and straightforward reporting make it particularly suited for clinical, research, or educational settings aiming for efficient and reliable psychometric assessments.