

Assessment Center API

User Manual detailing features and functionality

Version 1.2

Assessment Center API

General Information

What is the Assessment Center API?

The Assessment Center API (AC_API) allows your data collection software (or other applicable software) systems to administer PROMIS and Neuro-QOL measures. API stands for Application Programming Interface and specifies how software systems should communicate with one another.

The AC_API was developed by IT experts at Northwestern University to enable software systems to administer PROMIS and Neuro-QOL measures without the need to use Assessment Center, i.e. PROMIS and NeuroQOL computer adaptive testing (CATs). CAT allow instruments to be administered with sophisticated item selection and scoring algorithms.

Why would I want to use the AC_API?

The AC_API delivers PROMIS and Neuro-QOL CAT instruments to users interested in including them in their data collection. The AC_API is most useful to users who wish to utilize CATs but do not have the capability to administer them in their own data collection software. The AC_API enables the fast addition of existing PROMIS and Neuro-QOL instruments into an existing data collection software system. It is an existing product which has been developed and tested by data collection, IRT-scoring experts. Updates and new instruments will be made available as they become available via sponsoring initiative (PROMIS, NeuroQOL currently, NIH Toolbox PROs in the future).

Northwestern University developed the AC_API so that existing survey systems could add CATs and short forms quickly and with minimal internal development effort.

Who is allowed to use the AC_API?

There is no usage restrictions related to the AC_API. There is a monetary cost involved in using the AC_API and each user must host the AC_API on their own server(s).

Is there a cost associated with using the AC_API?

Yes, access to the AC_API will require payment. The cost is currently an annual license fee. It is necessary to contact Center administrators at help@assessmentcenter.net for more information, details.

Installation

How do I install the AC_API?

There are a couple of steps required prior to the installation of the AC_API. First, interested parties should try out the AC_API the Northwestern sandbox, i.e. an isolated environment on the Northwestern system specifically set up for testing the AC_API. More information on how to use the sandbox is located in the Development section of this manual. Next, an agreement of use and purchase has to be agreed upon, finalized, and signed off on. To begin the installation process, users must procure a server to which the AC_API will communicate. Then they will be granted access to a link where they can download the AC_API software. Finally, user will need to install and configure the API to connection with their existing system.

Are there any technical requirements for AC_API installation?

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The AC_API is built upon Microsoft technology (i.e. SQL server, Microsoft web server IIS). The supported software requirements are:

- IIS 7.0 and above
- MS SQL server 2008R2 and above

The application is deployed as a RESTful web service, for detailed installation and configuration instructions see the ReadMe file included with the AC_API download.

What are the recommended AC_API Server Specifications?

Required server specifications depend upon performance needs and data collection plans. If needed, the MSS consulting team can help determine specifications based off of previous data collected in your system.

Content

CATs and other content publically available via Assessment Center are periodically updated, modified, etc. Therefore users of the AC_API need to occasionally update their version to ensure it remains current. The API is on a bi-annual release schedule. Releases typically contain new/modified content, new features and bug fixes, etc. A link to the release notes can be found on the Northwestern sandbox at the bottom of the page.

Development

How does the AC_API get implemented in an existing data collection system?

An existing data collection system is defined here as a software product that presents instruments & items to participants, collects a response and stores that response.

In order to integrate the AC_API, the following steps are required:

1. The team implementing the AC_API needs to become familiar with the AC_API functionality. This can be done by registering and using the resources in the Northwestern sandbox.
https://www.assessmentcenter.net/ac_api.
 - a. In brief, the AC_API covers the following functionality:
 - i. Lists available instruments that can be selected for administration
 - ii. Orders an assessment
 - iii. Starts the assessment (first item)
 - iv. Responds to assessment item selection in sequence and retrieves next item
 - v. Retrieves scores of assessment
2. The team implementing the AC_API needs to evaluate how to program the AC_API integration in their relevant data collection system. In order to successfully integrate with the AC_API, the data collection system needs to include the following functionality:
 - a. Management of participants and participant registration
 - b. Presentation of instruments for selection (optional)
 - c. Order of assessment
 - d. Presentation of each item to the participant
 - e. Registration of the participant response sent back to AC_API
 - f. Saving final scores to the database
3. The team implementing the AC_API then needs to program and test the integration.

Programming the integration is a task that must be performed by the owners of the existing data collection software. If a UI (user interface) is not already in place, one will need to be designed and developed with the following requirements:

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1. Participant to be guided to scheduled assessment(s). Remote access should be accommodated by enabling access to the data collection system via the Internet.
2. Participant initiates the assessment
3. Instrument items are presented for participant response one per screen
4. Response from participant is sent to the AC_API, next item to be retrieved from the AC_API and presented via the data collection system
5. Detection of end of assessment and UI to guide to conclusion screen
6. Storage of intermediate results and final results along with scoring

In addition to these tasks, the same team needs to program, following the specific requirements of the project, how to address:

1. Participant stopping the assessment prior to completion
2. Participant restarting the assessment later
3. Expiration of assessments that were stopped and not restarted
4. Rules for going to back to previous items
5. Rules regarding changing responses
6. Rules regarding skipping items

In brief, the existing data collection system needs to include programming for the UI and rules regarding data persistence and participant data.