Instructions for Connecting to the VAST Challenge 2016 Streaming Server

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The VAST2016 streaming server will stream JSON formatted messages. There are two streams available: a test stream (up to 8 hours) and the Mini-Challenge 3 official challenge stream. You may play the test stream as many times as you want. Once you begin running the official challenge stream, you may not replay the test stream.

## Getting Access to the Data Streams

To get access to the data streams, please email the contest and get your user-connection token. Then you will connect using a web socket URL ws://vast2016.labworks.org.

## Contents of the Streams

Once you connect, the data will come in the JSON formats shown in the Data Formats document you downloaded from the web site. Several types of messages will be included in the stream. They will vary in delivery rate.

The MC3 streaming data server will provide you a choice at a point in the stream. You will be asked about the placement of an additional sensor. This is done as part of the JSON control messages in the stream. If you provide no answer, the data stream will continue to play, but you will not receive data from an additional sensor.

In order to provide a way to test, this feature is provided in the test streaming server.

The test stream can be replayed multiple times, and the choice option will be presented at 1 minute into the stream. You have 1 hour to send your choice.

The real data cannot be replayed. The choice option will be presented 56 hours into the stream. You have 1 hour to send your choice.

## Connecting to the Stream

Once the connection is valid, the client must provide a JSON object with the user id and connection information.

The format – to play the test data is as follows:

{ “uid” : “username”,

“test” : true

}

The format – to play the real MC3 data is as follows:

{ “uid” : “username”

}

The **username** is the user ID value you will be sent in email.

**Troubleshooting suggestions**

* A single **uid/username** may only have a single connection open – playing a single segment. If a second connection is opened for the same **uid** value, the second connection will over-ride and affect both connections.
* Some firewalls have trouble with web socket connections because they look like HTTP but are not actually HTTP. Check with your network staff if this might be affecting you.

# Data Format

When the system recognizes your username, the data will start to stream.

If you send an unrecognized username :

                        // If not a known client CLOSE the connection

                        {

                            type: "control",

                            body: [{

                                state: "BAD",

                                msg: "Client not permitted: " + o.uid

                            }]

                        }

If you send an invalid JSON object :

            // this should only happen with a bad JSON object

{

                    type: "control",

                    body: [{

                        state: "BAD",

                        msg: "invalid JSON object: " + message

                    }]

            }

If you request the test version after starting the main MC3 stream:

             {

              type: "control",

                 body: [{

                        state: "BAD",

                                  msg: "Cannot run test stream; live stream already started"

                          }]

               }

When it is time to choose which sensor you would like to add to your data stream, you will receive this message :

{

                            type:"control",

                            body: [{

                                state: "GOOD",

                                msg:"Please select one stream to add to your feed.\nYou have 120 minutes to make your selection.\nReply with "

                                    + JSON.stringify({

                                            uid: "...",

                                            streamId: "..."

                                        })

                                    + "\nOnce selected, your selection is final.",

                                streamIds: [...]

                            }]

                        }

You will choose one of the streamIds provided and return it. In the following message format:

{

“uid”:”username”,

“streamId:”<streamId>"

}

<streamId> is one of the string values provided in the choice message.

Note: The test values for streamIds are NOT the same as the real MC3 streaming data.

You can send a single choice message. Your choice is final and may not be changed.

The possible error messages that may be received, relating to sensor choices are :

                                {

                                    reason = "choice already made (" + state.addedStream + ")";

                                }

                                {

                                    reason = "request not permitted at this time";

                                }

                                {

                                    reason = "invalid stream (" + o.streamId + ")";

                                }

                                {

                                    reason = "alloted time expired";

                                }

                                {

                                    type: "contol",

                                    body: [{

                                        state: "BAD",

                                        msg: "Stream add failed: " + reason

                                    }]

                                }