Challenger.io (temp)

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# Overview

Challenger is an online learning platform for either individuals, teams, organizations, or content creators who want to create “learning-presentations” – compact video sequences that overview a set of concepts and actions relative to the concept spaces present in the session.

## Concepts

### Sessions

* Self-Session
* Online/Shared Session

#### Self-Session

A self-session is simply a tracked session with an individual user. For Knowledge this might be learning, problem solving, certification or tracking forget or new knowledge acquisition rates. For an assessor, this would be putting together concept and problem sets and profiling their match to a set of skill-set asset acquisition target metrics. What do my candidates have, where is that relative to our acquisition goals.

#### Online-Session

An online-session is a collection of individuals that can either operate in collaboration-mode or, presentation-mode. In Collaboration Mode, they can both put together target-sets as well as work on problems or, concept learning as a collaborative-team. Presentation mode provides a single user with total control over the session. Users can make voice or chat requests but, they cannot edit the sessions artifacts during the session.

### Spaces

Spaces or Concept Spaces allow users to source the actions that will be presented in a session. These are then interacted with by users as “Actions” – the actions are the rendered concepts as interactive learning target artifacts.

* Knowledge
* Research
* Challenges
* Certifications

#### Knowledge Spaces

* Wikipedia
* Book
* Platform Documentation
* Online Sources

##### Wikipedia Knowledge

Within Wikipedia, we will develop a set of topic or link graphs that capture a global-topic space and then the concepts and artifacts that come under it. This will then be transformed into a set of terse statements (Knowledge Statements). The inverse is then generated to formulate a question pair. The answer to the question is then mined for within the page (wiki entry) as well as the topic space. Other sources can then be incorporated to add weighting to the answer such as a Google Query or, online sources such as Stack Overflow and University Websites.

##### Book Knowledge

* Book
  + Text
  + Exercises
  + Statements into Questions

##### Platform Documentation Knowledge

This set is used to generate knowledge-question pairs for special purpose topics such as exact platforms used for a given product or task. This can then be incorporated with fundamental knowledge spaces such as Data Engineering Concepts for Platforms like Spark or Airflow for example, providing continuity as well as site, employer specialization or, just as a general learning associative applied concept weighting (Answering “Does I know, and can apply in application or problem space, Concept c”).

* AWS Platform Documentation
* Apache Platform Documentation

##### Online Sources

* Online Communities
  + Stackoverflow
  + Reddit
* University Websites
  + MIT OpenCourseWare
  + Stanford

#### Research Spaces

#### Challenge Spaces

#### Certification Spaces

### Actions

Actions or user-interactable artifacts in a session, rendered from a given set of Spaces. Actions are things like a set of concepts outlined, presented, and discussed for a general knowledge acquisition, a set of questions for providing answers to in a testing-session or, things like Coding Challenges for personal development, interviewing, or presentation.

If Spaces are Sources, Actions are Targets.

Knowledge Presentation Action

This is equivalent to reading. Density can be toggled from lowest to highest were the sources in the knowledge render the available range of presentable knowledge. This should be like reading a book, just dynamically rendered in terms of its content.

Question-Answering Action

### Metrics

* Global Performance
* Collaborative Performance
* Space-Action Performance
* Individual Historical Performance
* Forget and Acquire Rates

#### Global Performance

Participants Performance relative to global metrics

#### Collaborative Performance

Participants Performance within a collaboration session relative to each other

#### Space-Action Performance

Performance specific to the set of concept-outlines present in the session

#### Individual Historical Performance

An individual performance relative to their historical total: entirety, a period, a concept-space target set.

#### Forget and Acquire Rates

Deliberate tracking for either ensuring past learn targets are retained or, that a set of acquisition goals is trending on an established goal line, relative to a total.

### Modal Operation

Work in two modes:

* Interview/Demonstration Mode
* Learning, Knowledge, Certify, Recertify, Extend Mode

#### Interview/Demo Mode

In interview or demo mode, any given party, either the interviewer or interviewee in interview mode or anyone present on the online session, can put together a source-set.

#### Learning Mode

* Learning, Knowledge, Certify, Recertify, Extend Mode

## Platform Resources

# Machine Learning Platform

## Machine Learning for Space and Action

Recent breakthroughs in NLP can help us achieve a low cost and capable implementation.

Llamma NLP

ML Concept-Set

ML Problem-Set

ML Individual -> Self Analytics

ML Individual -> Other(s) Analytics

Internal Models:

* Wiki Knowledge
* Arxiv
* Platform Knowledge (Doc Sets)
* Book Knowledge
  + Text
  + Exercises
  + Statements into Questions
* Problem Sets
  + LeetCode
  + Euler