An **LTI Cookbook**

“Is it possible to achieve a **rich** integration using LTI standards?”

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● Revolutionizing the experience of writing to learn
● The formative feedback and originality checking services promote critical thinking, ensure academic integrity and help students improve their writing
● Most well known--and used--as a plagiarism detection service
● Turnitin also provide instructors with the tools to engage students in the writing process, provide personalized feedback, and assess student progress over time
Cengage Multidiscipline Courseware Platform
Hand-Picked Partners -> Deep Integration
Course Assembled by Content Producers
Customizable by Instructors
Base ingredients: LTI 1.1 (LTI Launch + Basic Outcome Service)

LTI Launch

Who
Where
What (resource_link_id)
Grade Locator
(lis_result_sourced_id)

Basic Outcome Service

0..1 score
Recipe 3: Syncing Availability Dates
No clear source of Truth, no Sync mechanics
Custom Param:

duedate=$ResourceLink.submission.endDateTime

due date: 2018-06-04

custom_duedate=2018-06-04T04:00:00Z

TurnItIn shows as Read-Only parameters explicitly passed by Mindtap (dates, points)
Per user end date
duedate_extension

Due date: 2018-06-04

Submits on 2018-06-09

custom_duedate=2018-06-04T04:00:00Z

Late

Submits on 2018-06-09

custom_duedate_extension=2018-06-010T04:00:00Z

Accepted
DEMO!
Recipe 1: Submitting on Student Behalf
Issue: User and Result ID require Student launch
Recipe: Membership Service! It gives the Roster...

Assignment A
- Cornelius submission
- Brenda's submission

Assignment B
- Cornelius submission
- Brenda's submission

GET

https://www.iconfinder.com/icons/1218712/customers_group_team_user_user_group_icon#size=128
Recipe: ... and the lis_result_sourcedid!

Assignment A
- Cornelius submission
- Brenda’s

Assignment B
- Cornelius 87%
- Brenda’s

GET ?rlid=89901d

custom_context_membership_url

Assignment A

Assignment B

instructor

87%
How to keep in Sync efficiently? Delta updates!

3.2 Membership container media type

The accompanying HTML documentation defines the following media type used by the membership service:

- application/vnd.ims.lis.v2.membershipcontainer+json

```json
{
  "@context": {
    "http://purl.imsglobal.org/ctx/lis/v2/MembershipContainer",
    "liss": "http://purl.imsglobal.org/vocab/lis/v2/status#",
    "lism": "http://purl.imsglobal.org/vocab/lis/v2/membership#"
  },
  "@type": "Page",
  "@id": "http://lms.example.com/sections/2923/memberships/?rid=49566-rkk96",
  "nextPage": "http://lms.example.com/sections/2923/memberships/?rid=49566-rkk96&differences",
  "pages": {
    "@type": "LISMMembershipContainer",
    "membershipSubject": {
      "@type": "Context",
      "contextId": "2923-abc",
      "membership": [{
        "status": "liss:Active",
        "member": {
          "@type": "LISPerson",
          "sourcedId": "school.edu:user",
          "userId": "99e92eb8-76c9-4869-8065-77b19653e545"
        }
      }
    ]
  }
}
```
Membership Service 1.0, final may 2016
DEMO!
Recipe 2: The ADD flow (Deep Linking)
Basic LTI: No add flow, links are created blank...

... first launch is create
Recipe: use Custom Params for on the fly creation

... requires a custom UI to collect those :( 

Assignment A1
Better Recipe: Use Content Item Selection Request

```json
{
    "@type": "LtiLinkItem",
    "title": "The virtue of CISR",
    "text": "Read on the Content Item Selection Request and write a 1000 words essay on how great it can be used to improve integration.",
    "mediaType": "application/vnd.ims.lti.v1.ltiLink",
    "custom": {
        "journalcheck": 1, "s_view_reports": 0,
        "late_accept_flag": 0, "report_gen_speed": "0",
        "use_biblio_exclusion": 0, "anonymous_marking_enabled": "0",
        "use_quoted_exclusion": 0, "allow_non_or_submissions": "0",
        "submit_papers_to": "1", "internetcheck": 1,
        "startdate": "2017-05-02T11:28:00-04:00",
        "duedate": "2017-05-25T11:28:00-04:00",
        "feedbackreleasedate": "2017-05-26T11:28:00-04:00"
    },
    "lineItem": {
        "@type": "LineItem",
        "scoreConstraints": {
            "@type": "NumericLimits",
            "totalMaximum": "41"
        }
    },
    "url": "https://sandbox.turnitin.com/api/lti/1p0/assignment?lang=en_us"
}
```
Save definition as Parameters for On The Fly Creation on 1st launch

Resource Link Id: 189eat890
custom_params: All Attributes of the Assignment
Content Item Selection Request, 1.0, final May 2016
Recipe 4: Course Copy
Use
$Context.id.history
$ResourceLink.id.history
to Copy Courses and Activities

https://www.imsglobal.org/lti-course-copy-road-nowhere
The Course Copy Road to Nowhere

LTI V1.2 Substitution Parameters
Recipe 6: marking an activity completed and pending grading
Student submission is complete (needs grading)

Now

- Use Custom Turn It In call back: ext_outcomes_tool_placement_url
- Callback URL on Submission:
  - Submission is Done
  - Can be used to download it
3.3.1 Activity Progress

ActivityProgress must be used to hint the Tool Consumer on the status of the user on the Activity’s completion.

The activityProgress property of a score must have one of the following values:

- **Initialized** – the initial state of a result resource for newly created line item;
- **Started** – the activity associated with the line item has been started by the user to which the result relates;
- **InProgress** – the activity is being drafted and is available for comment;
- **Submitted** – the activity has been submitted at least once by the user but the user is still able make further submissions;
- **Completed** – the user has completed the activity associated with the line item.

It is up to the tool provider to determine the appropriate activityProgress value.

3.3.2 Grading Progress

GradingProgress must be used to hint the Tool Consumer on the status of the Grading process, including allowing to inform when human intervention is needed.

The gradingProgress property of a score must have one of the following values:

- **Completed** – The grading process is completed; the score value, if any, represents the current Final Grade;
- **Pending** – Final Grade is pending, but does not require manual intervention; if a Score value is present, it indicates the current value is partial and may be updated.
- **PendingManual** – Final Grade is pending, and it does require human intervention; if a Score value is present, it indicates the current value is partial and may be updated during the manual grading.
- **NotReady** – There is no grading process occurring; for example, the student has not yet made any submission.

It is up to the tool provider to determine the appropriate gradingProgress value.
Recipe 5: Launching to Feedback Studio from Gradebook

97% → [Document with grade]
Student launches activity

**lti_message_type**: basic-lti-launch-request  
**resource_link_id**: 7-ztest-914078f1-2244  
**roles**: Learner  
**user_id**: 23bae854c0f5e1a6:-325ee044:136f47b54f5:-7ff4  
**lis_outcome_service_url**: http://local.mindtap/nb/service/LtiOutcome/pox/  
**lis_result_sourcedid**: mta24704:7:0:1511295216

Submission identifier
Instructor grades activity (gradebook launch)

lti_message_type: GradebookResultMessage
resource_link_id: 7-ztest-914078f1-2244
roles: Instructor
user_id: f2a286f7415519e4:-6d59b87c:13b7b5dc687:-7ffe
lis_outcome_service_url: http://local.mindtap/nb/service/ltiOutcome/pox/
lis_result_sourcedid: mta24704:7:0:1511295216
custom_for_user_id: 23bae854c0f5e1a6:-325ee044:136f47b54f5:-7ff4
White Box Analytics Event?
Caliper, Session & Assignment Profiles

Edit Flow?
Content Item Update Message

2 ways sync on dates
Content Item Service, Notification

2ndry Activity Grade (Peer Review)
Gradebook Line Item Service
Yes a **Rich** Integration is Possible!

It's up to... **US**!

Be aware of the specs present and *incoming*

Contribute!

Push for adoptions and resist the *proprietary side*