
LTI Launcher

Tooling to implement LTI for HE

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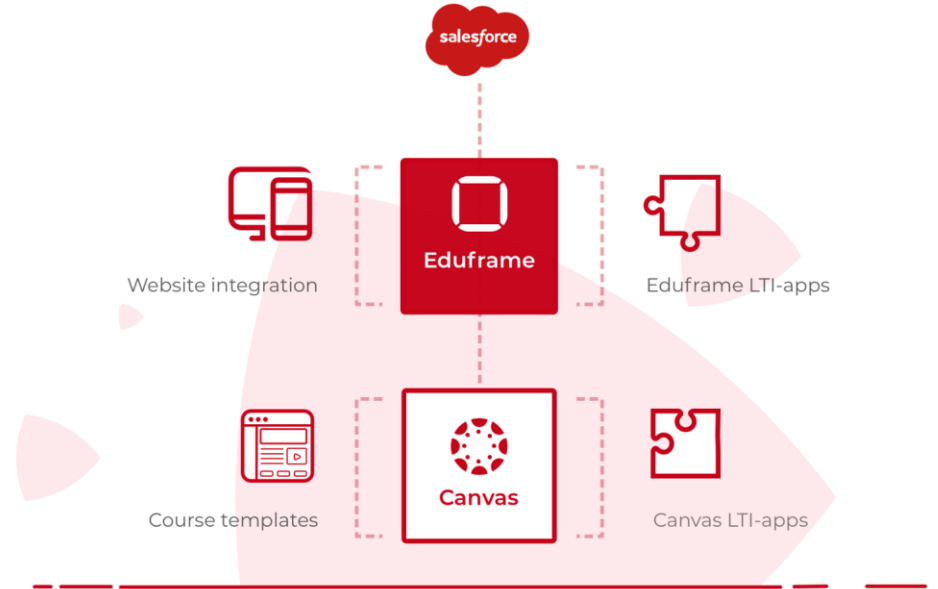
SURF

SURF is the cooperative organisation for ICT in Dutch education and research.

Improve the quality of Dutch education and research through ICT innovation.

The SURF logo consists of the word "SURF" in white, uppercase, sans-serif font, centered within a black speech bubble shape that has a tail pointing towards the bottom right.

DREAM



Content

- Learning Tools Interoperability
 - Why an LTI Launcher
 - How does it work
 - How does it fit in the ecosystem
 - Demo
-

LTI

Learning Tools Interoperability

Launch an external learning tool and run it as if it is an integrated part of the learning system. [1]

Learning Tools Interoperability

The screenshot displays the FEED Pulse interface within a DRTEAM application. The interface includes a sidebar with navigation options: Account, Dashboard, Courses, Groups, Calendar, and Inbox. The main content area shows the FEED Pulse header with tabs for Students and Groups, and a settings icon. Below the header, there is a button to 'Create checkpoint for selected (0)', a 'Filters' dropdown, a 'Sections' dropdown, and a 'Search students' input field. A table with columns for Student, Checkpoints, Pulse, Trend, and Last update is shown, but it contains no data. A 'Support' button is located on the right side of the table. The footer of the interface includes a back arrow and the text 'Privacy Policy - Developed by DRTEAM'.

DRTEAM

☰ Pannekoeken 101 > Pannekoeken bakken 101

FEED Pulse

Students Groups ⚙️

Create checkpoint for selected (0) Filters Sections Search students

Student	Checkpoints	Pulse	Trend	Last update
No data				

Support

← Privacy Policy - Developed by DRTEAM

Learning Tools Interoperability

WHO

Alice wants to...

WHAT

...open FeedPulse...

CONTEXT

...from within the course 'Programming with Ruby' as a student

Why an LTI Launcher?

Why an LTI Launcher?

Launch without LMS

- **Decouple** LTI tools from the LMS.
- Enable more **entry points** for a tool.
- Provide extra focus on a tool.

Add context manually

- Context is not always required or can be fixed.
 - Pass additional context to the launcher (using JWT).
-

Why an LTI Launcher?

Version agnostic

- Platforms don't care about used LTI version.
- New versions of LTI standard can be fixed in a single location.

Easy testing

- Test LTI capabilities of a tool without using a full LMS.
-

How does it work?

How does work

Manage tools

The launcher offers an administrative interface to set-up tools including security credentials.

Get the WHO

The Launcher is directly linked to a Single Sign On (SSO) service.

Only supports OpenID Connect for now.

How does it work

Get the WHAT

A user 'selects' the tool by going to a specific URL (or click a link):

`https://lti-launcher.com/launch/<tool_id> ?`

Get the CONTEXT

The generator of the link can add context by adding a JWT to the URL:

`context=xxx.xxx.xxx`

```
"https://purl.imsglobal.org/spec/lti/claim/context": {  
  "id": "42",  
  "label": "Deep Thought",  
  "title": "Finding the Answer",  
  "type": ["Course"]  
}
```

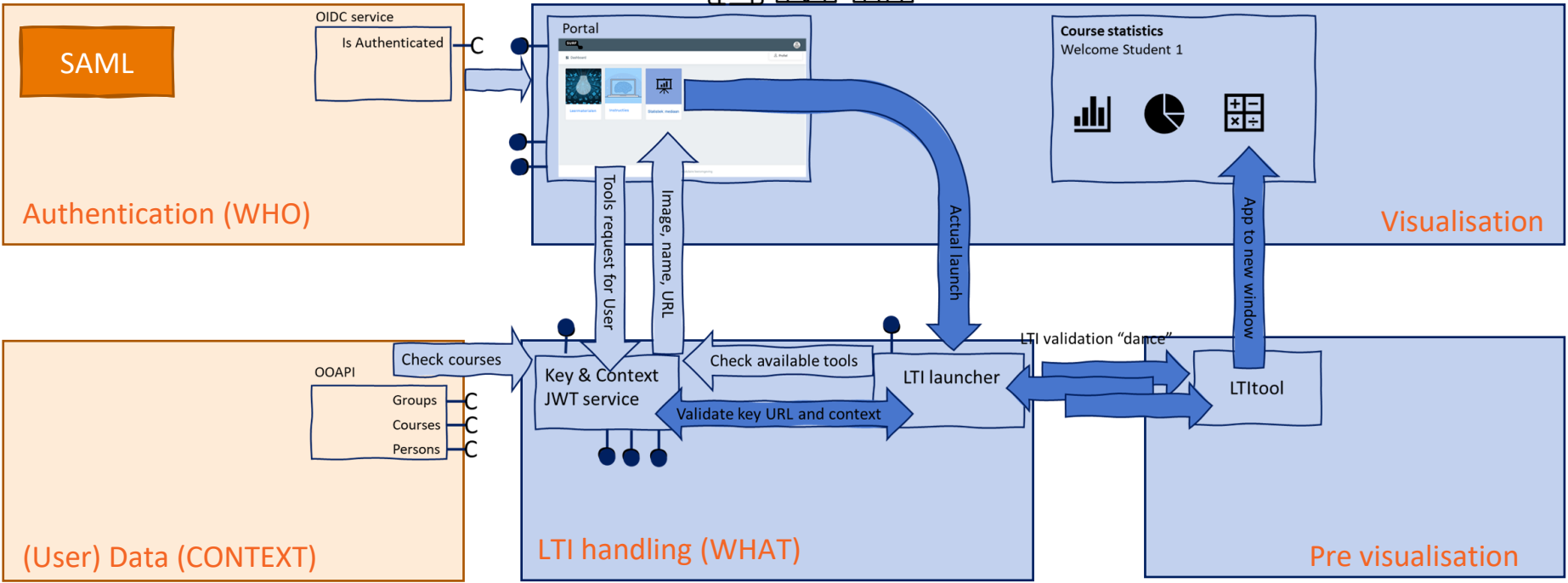
Perform the LTI 1.3 launch

Launching “dance”

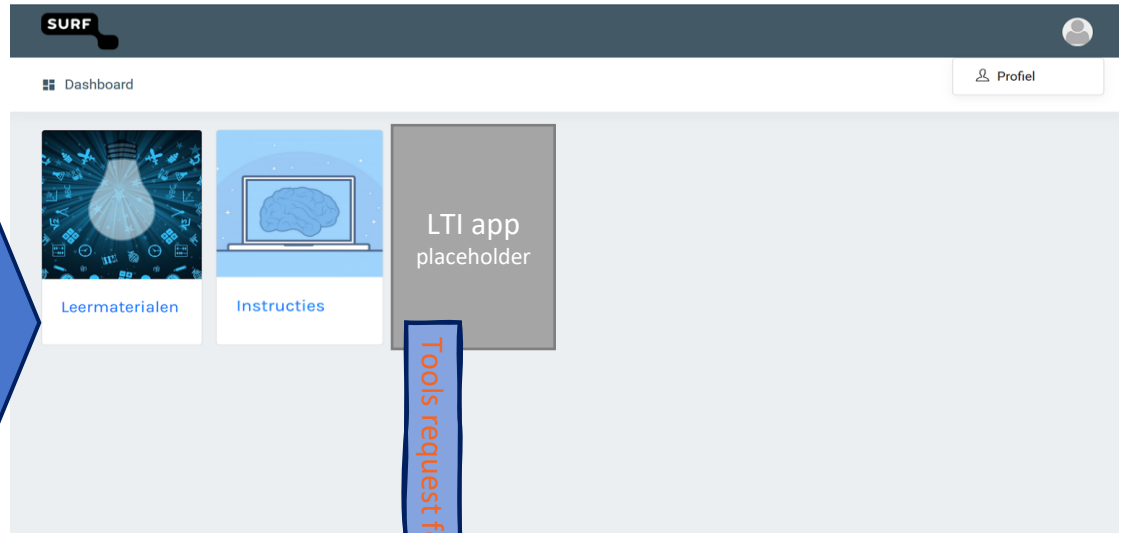
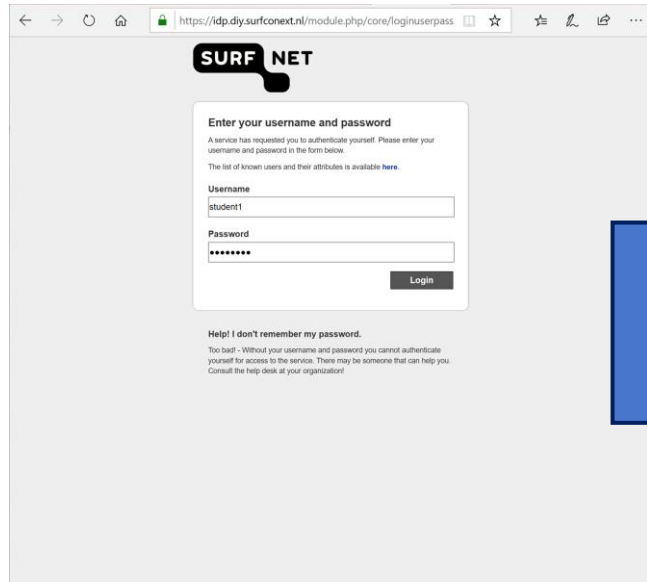
1. User navigates to: https://lti-launcher.com/launch/<tool_id>?context=xxx.xxx.xxx
 2. Launcher redirects user to SSO service to get user information
 3. User logs in if needed and gets redirected to the launcher
 4. Launcher starts Open ID Connect flow with LTI 1.3 tool
 5. User gets redirected back to the launcher
 6. Launcher performs the final launch
-

**How does it fit in the
ecosystem**

Users



Student opens portal site and logs in



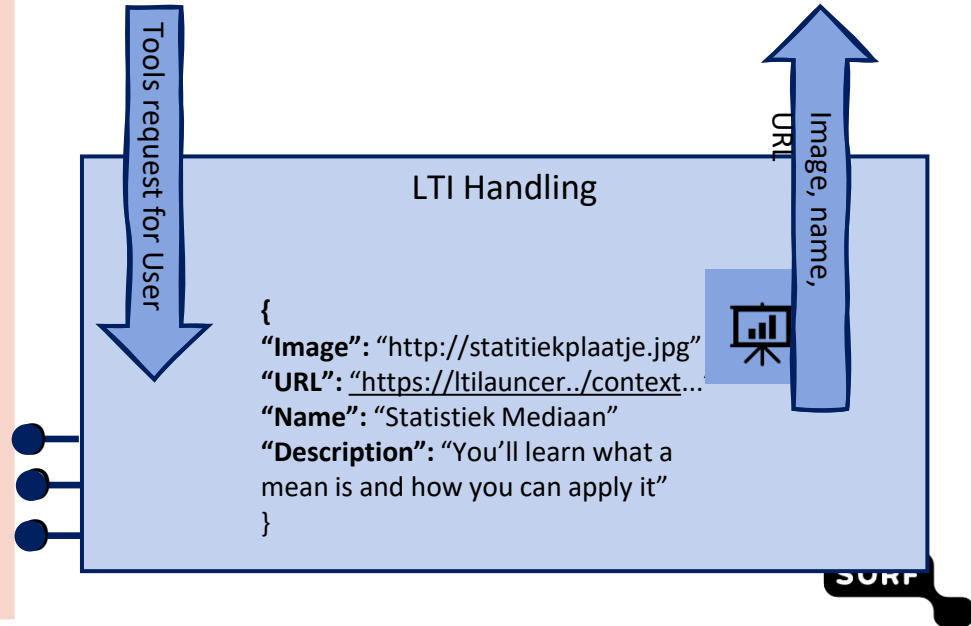
Generate the tile for the portal

JWT Service:

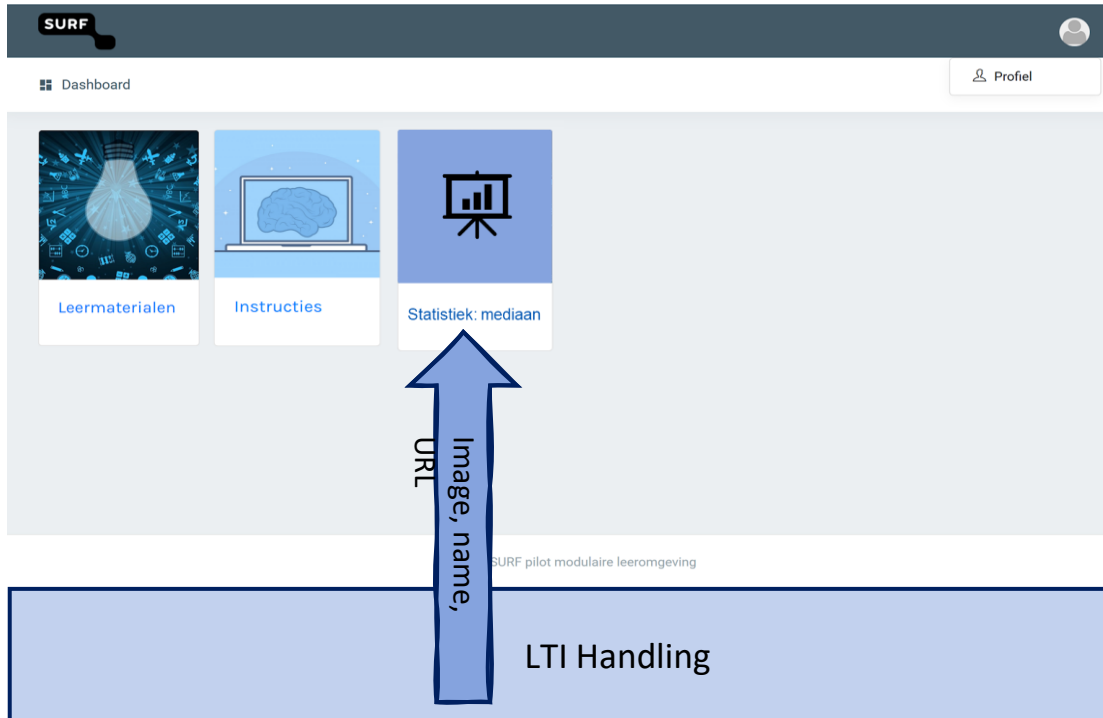
Search OOAPI

- Person (find out current role)
- Courses of student (which courses is student currently active in)
- LTI resources of sed courses

- Generate context for each resource
- Search metadata for LTI resources in LTI launcher
- Create package for portal:
 - Combine context and launcher URL
 - Image of tool
 - Name of tool
 - Description of tool

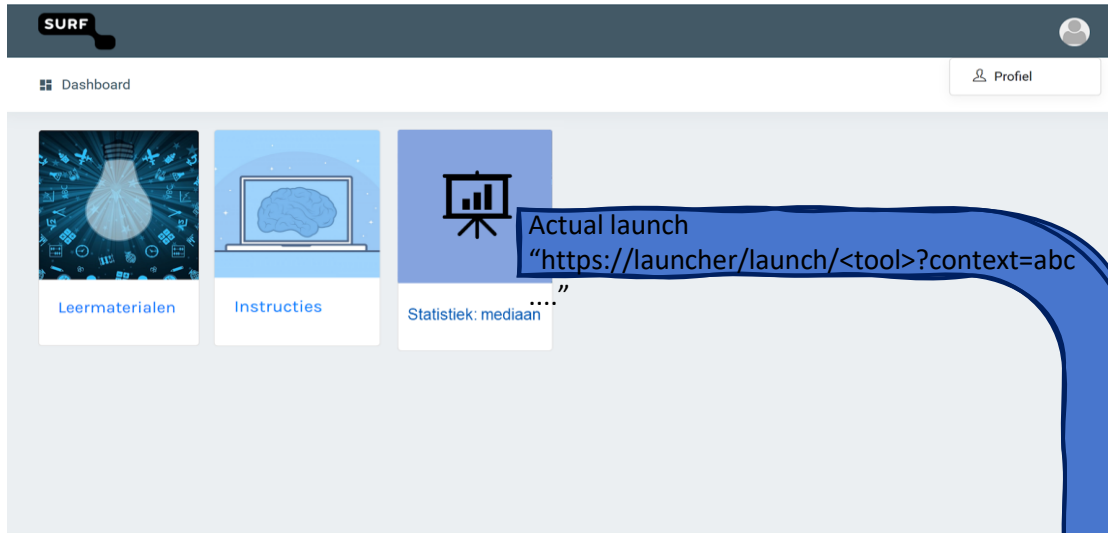


Portal is generated based on the LTI tools with context that are available to the student



- Portal generates tile based on information provided by JWT service

Student launches LTI tool



- Portal redirects student to new page that opens LTI launcher URL.
- This is a URL get: “https://launcher/launch/<tool>?context=abc...”

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LTI Handling

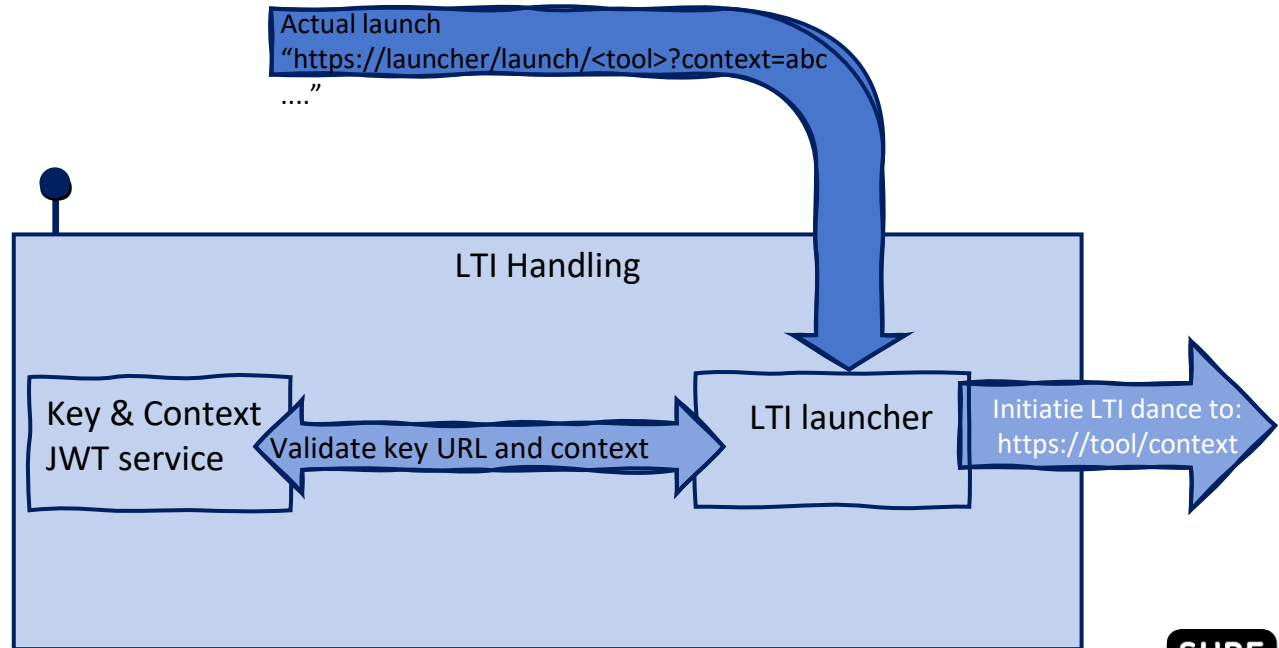
LTI launcher

The LTI launcher handles the launch call

LTI launcher

Receive initial call:

- Check / validate context and key @ WJT service
- Check OIDC
- Forward call to LTI component associated with tool number in URL, initiating "LTI dance"
- From here on LTI tool URL is used in sted of launcher



“LTI DANCE”

LTI-launcher

Call URL of Tool to launch with context

Authentication request received:

Verify tool (based on public key)

Handle authentication through OIDC

Redirect auth response to tool

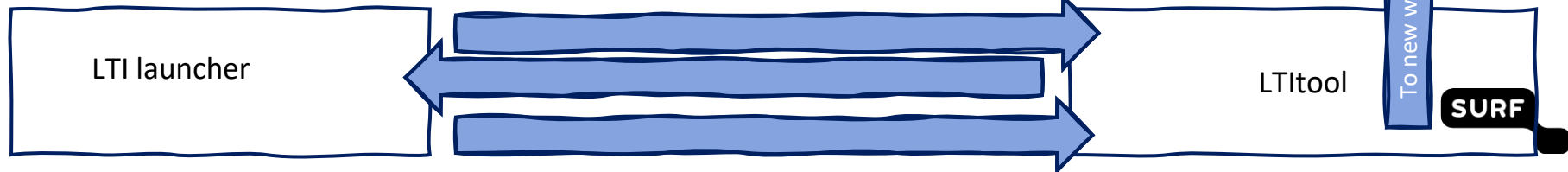
LTI-tool

Receive call (through user browser)

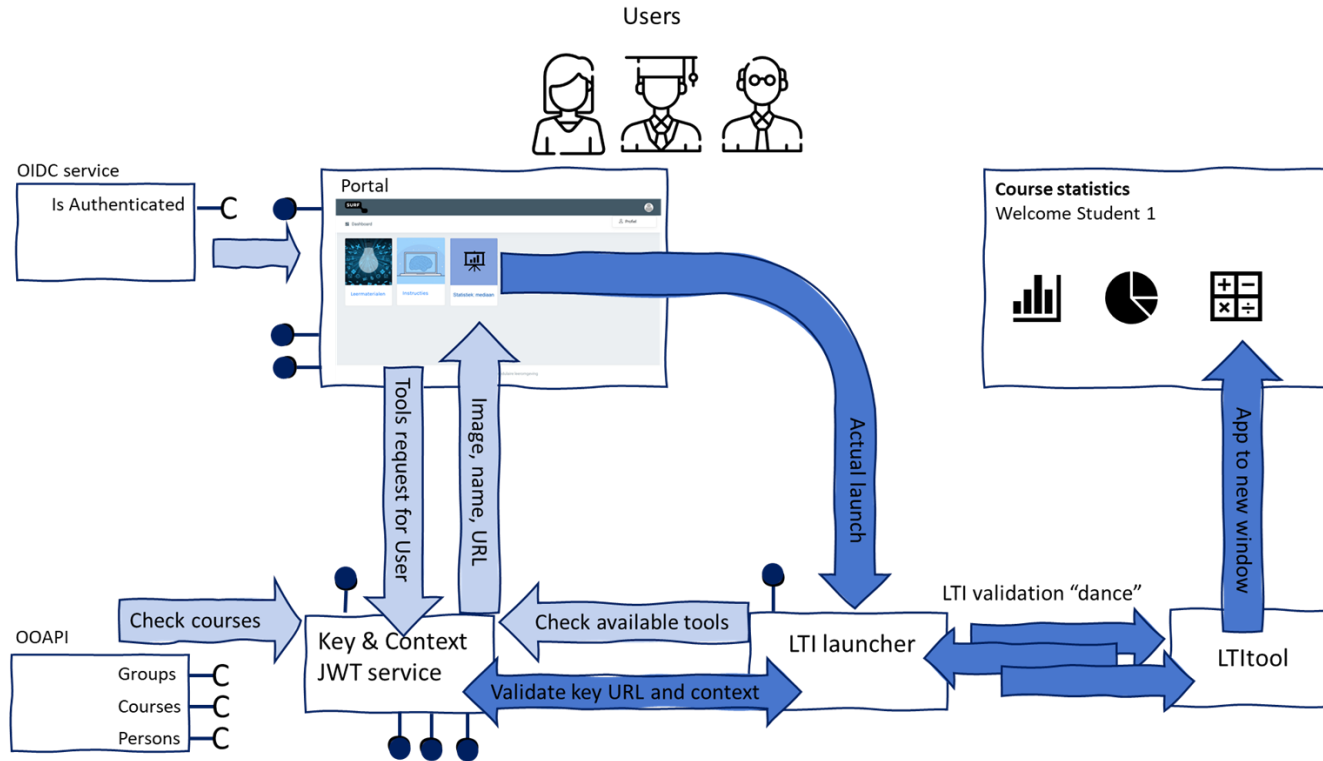
Send for authentication request @ launcher

Validate auth response

Display tool in new window of user



The whole LTI journey for a student



Demo

If time left

Possible extensions

- Fetch context instead of passing it
 - Fetch information from OOAPI / EDU-API
 - Manage Tool capabilities
 - What can the tool do
 - What are the placements
 - LTI Services
 - Add “Names and roles” and “Assignment and grades” serviced through OOAPI / EDU-API
 - Additional SSO Systems
 - Add SAML / LDAP
-

Resources

- <https://www.surf.nl/regie-op-de-digitale-leeromgeving/techniek> (Dutch)
 - <https://drieam.github.io/LtiLauncher/>
 - <https://site.imslobal.org/certifications/drieam/lti-launcher>
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