

Design Principles for LAMS Version 2 and the LAMS "Tools Contract"

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Brief Intro to LAMS

- LAMS is a system for Author, Run and Monitor learning designs
- LAMS was “inspired” by Educational Modelling Language (EML) and IMS Learning Design (IMS LD), but not a reference implementation for neither
- Started in 2002 and originally developed as a proof of concept
- It has been used for production teaching in more than 50 academic institutions worldwide and has a central community of users and developers

LAMS 2 Requirements

Key Areas for improvement:

- Pedagogical support and reusability and Collaboration
- Usability and interface
- Technical improvements

Pedagogical support

- Live Edit (edit a sequence on the fly)
- Support for branching and conditionality
- Portfolio Export
- Advanced Grouping Options
- Better support for multimedia
- Support for offline activities
- All tools implement self-reflection
- Support for system interoperability IMS LD Level A

Usability and Interface

- Multi-language support
- Improve Look-and-Feel (skins)
- Rich text editors
- W3C Level A accessibility

Technical Improvements

- Robustness and scalability
- Easy to manage, install and maintain
- Integration with existing authentication services
- Tools can be added without the need or re-compile/rebuild the system

LAMS 2.0

LAMS 2.0 is not longer just an application, but instead a framework for sequencing activities

- ② Architecture Comparison
- ② Tools Contract
- ② LAMS Tools
- ② Built-in content repository and note services
- ② Sequence External Tools within LAMS

LAMS 1.0.x vs LAMS 2.0

Architecture Comparison

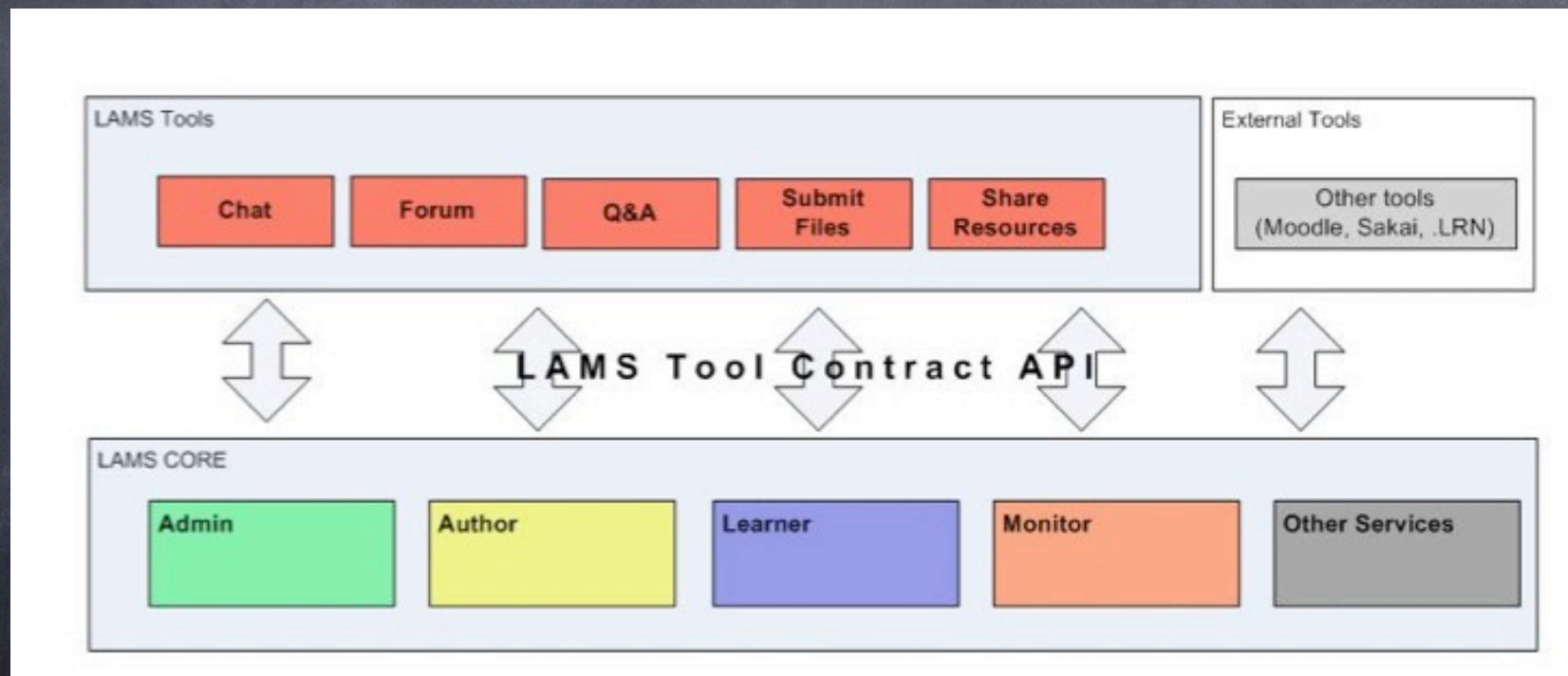
LAMS 1.0.x

Author Tools Survey Chat Forum Chat & Scribe...	Monitor Tools Survey Chat Forum Chat & Scribe...
Admin User and Organization Management...	Learner Tools Survey Chat Forum Chat & Scribe...

LAMS 1.0.x vs LAMS 2.0

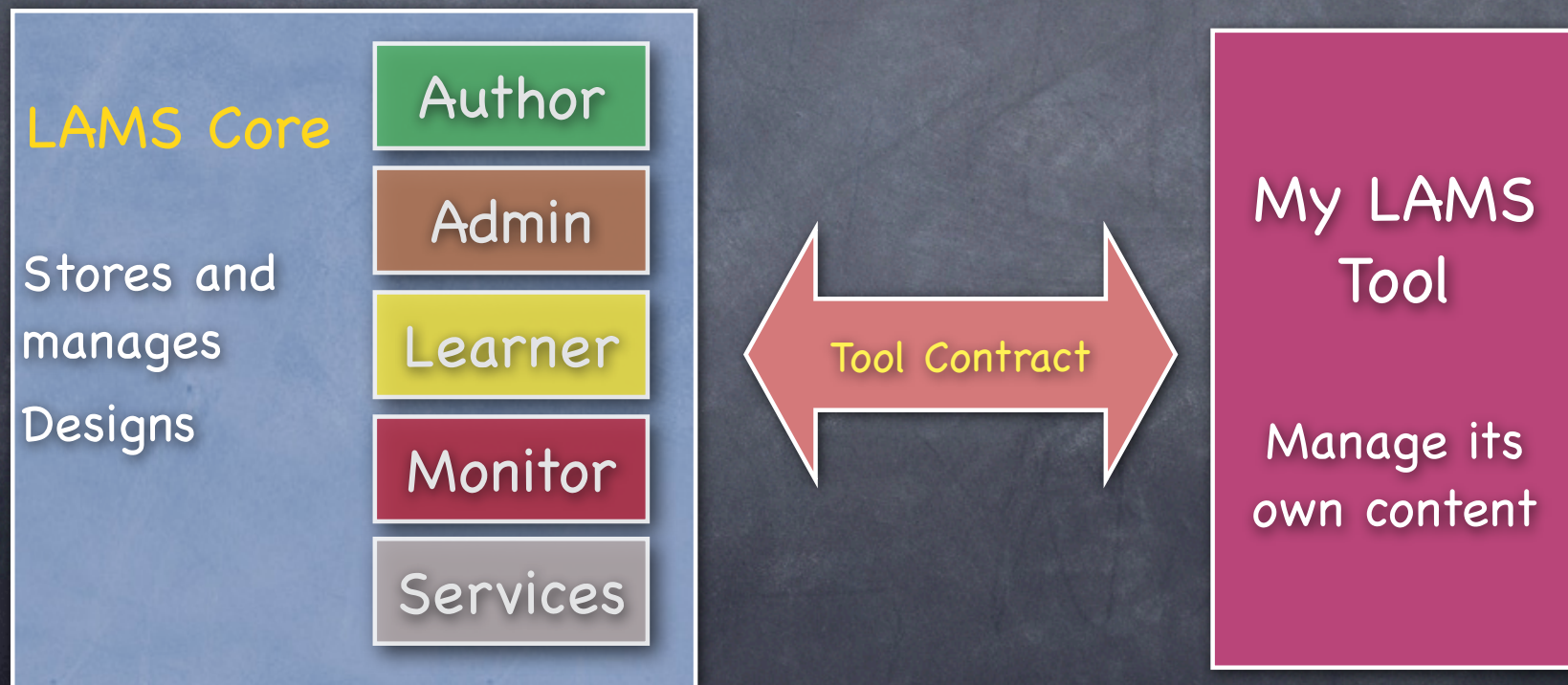
Architecture Comparison

LAMS 2.0 Architecture



Tools & Tools Contract

- Tool as "almost" independent web applications.
- Set of expected behaviours, registered URLs and API calls that a LAMS Tool has to implement to "talk" to LAMS Core.
- Clear separation between Design and Tool Content.



My LAMS Tool



Author

Admin

Learner

Monitor

Services

My LAMS Tool

Author Contract/API



Author

- Authoring URL
i.e.: <lams base path>/<tool's authoringurl>&toolContentID=123
- Default Tool content
- Author environment must have three mandatory tabs: Basic, Advanced and Instructions
- Preview URL
- Export content format
- LAMS Xpress interface
- Data exchange (input and outputs data types)

My LAMS Tool

Monitor Contract/API



Monitor

- Monitor URL
 - Implement Summary, Instructions, Edit Activity and Statistics tabs.
 - Allow edit and hide entries (when required).
- Export Portfolio URL

My LAMS Tool

Learner Contract/API

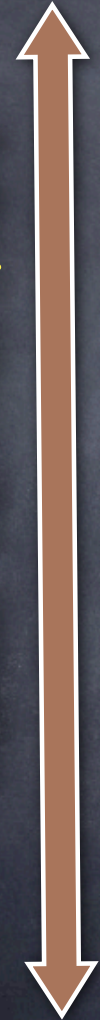


Learner

- Learners URL
 - Track progress within tool
 - Define later, Lock on Finish, Run offline
 - Notify Sequencing Engine of users' completion
- Export Portfolio URL

My LAMS Tool

Admin Contract/API

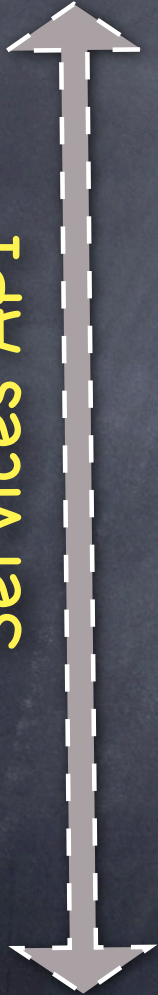


Admin

- Administration URL
 - Edit "Default Tool Content"
 - Provide statistics about Tool usage
 - General view of Tools metadata (tool version, etc)

My LAMS Tool

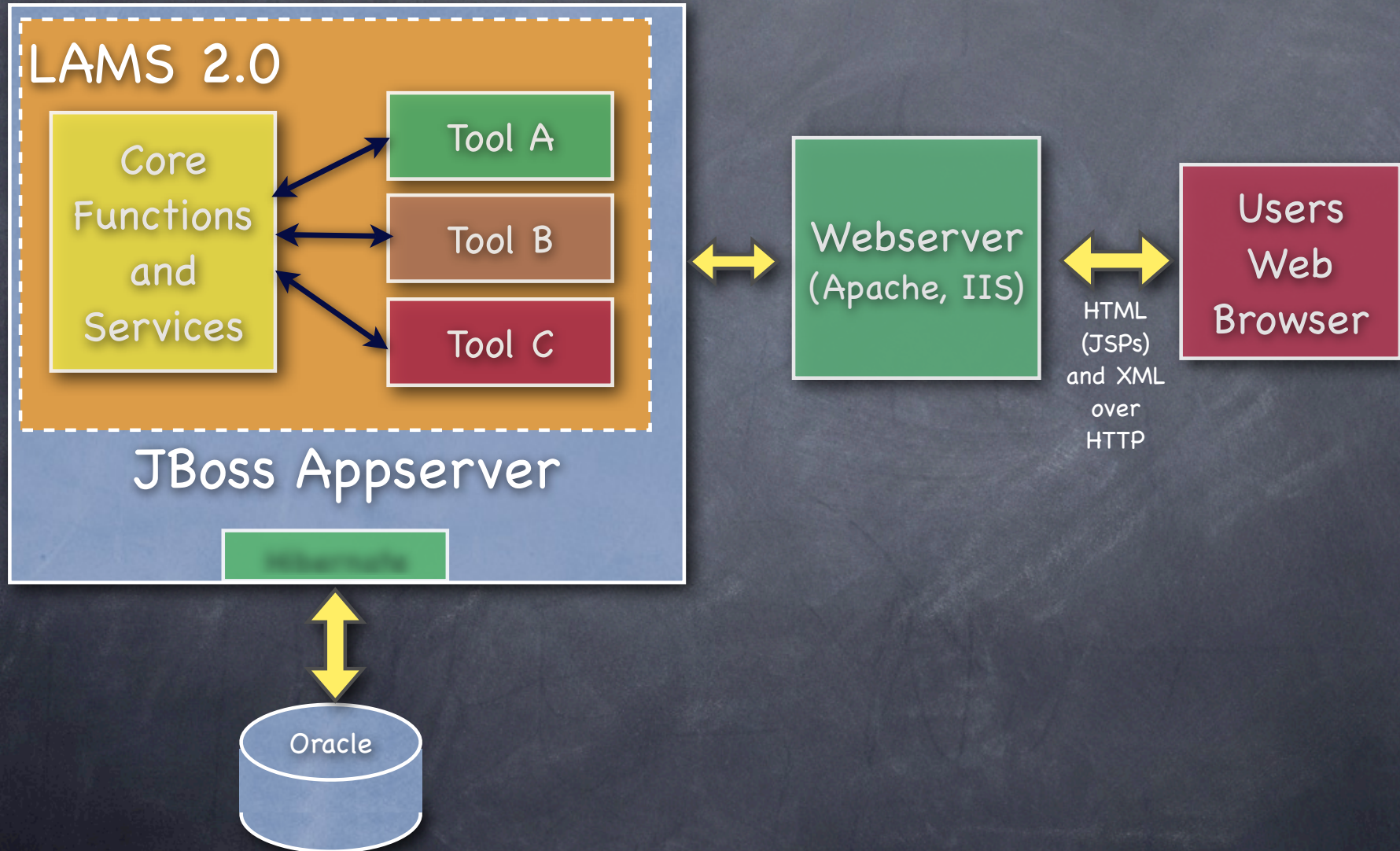
Services API



Services

- Chat/IM server (based on Jabber)
- Journal and notes
- Content repository
 - Add/Remove content
 - Add new versions of content
 - Stream content to users

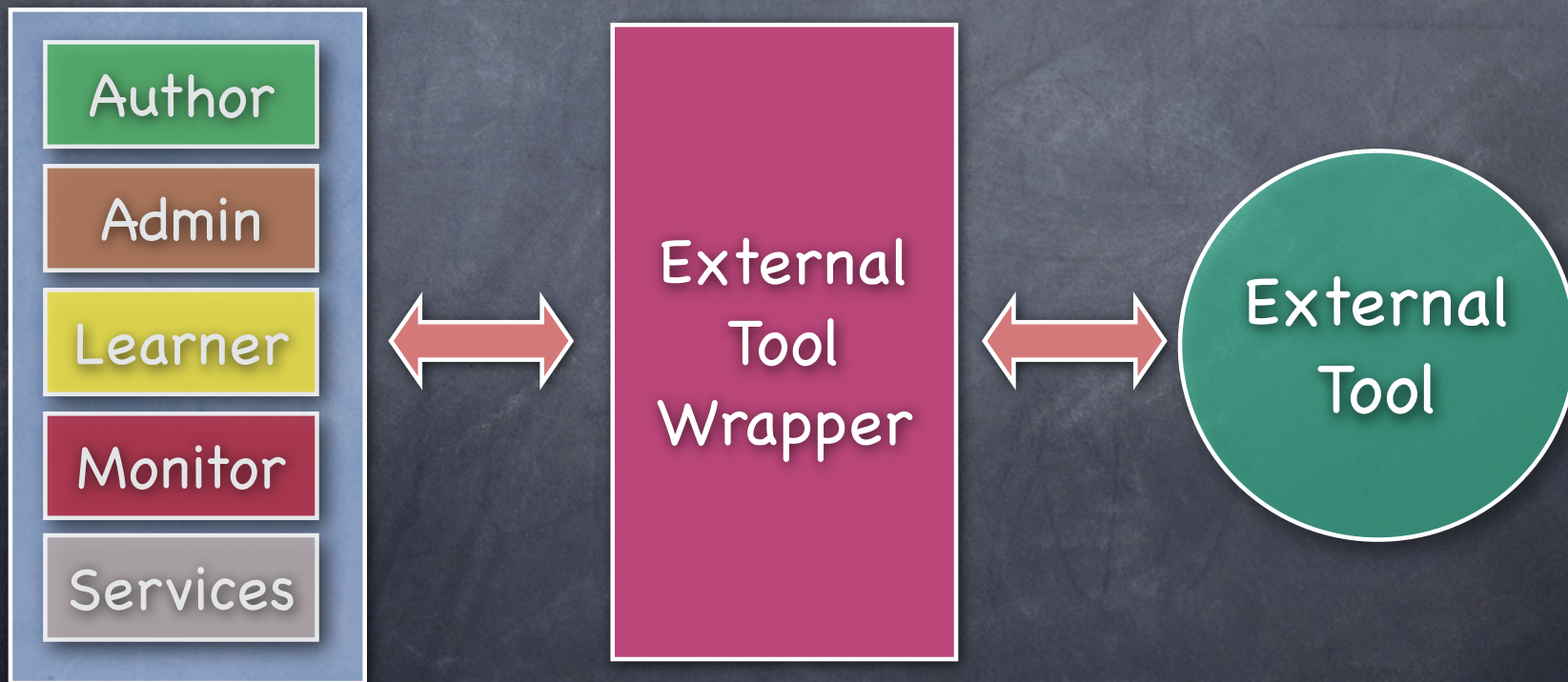
LAMS Technologies





External Tool Wrapper

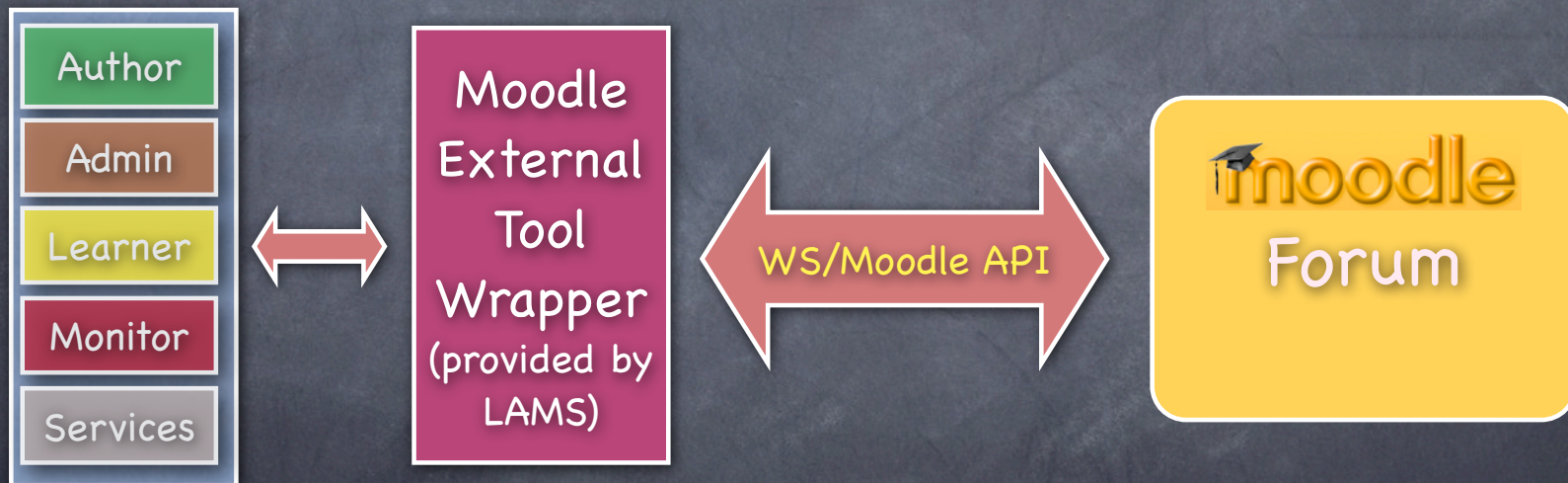
External tool can be used as normal LAMS Tools using the tool wrapper. Effectively, Moodle, .LRN or Sakai tools can be used as native LAMS tools (including advanced features as groupings, branching, define in monitor, etc)



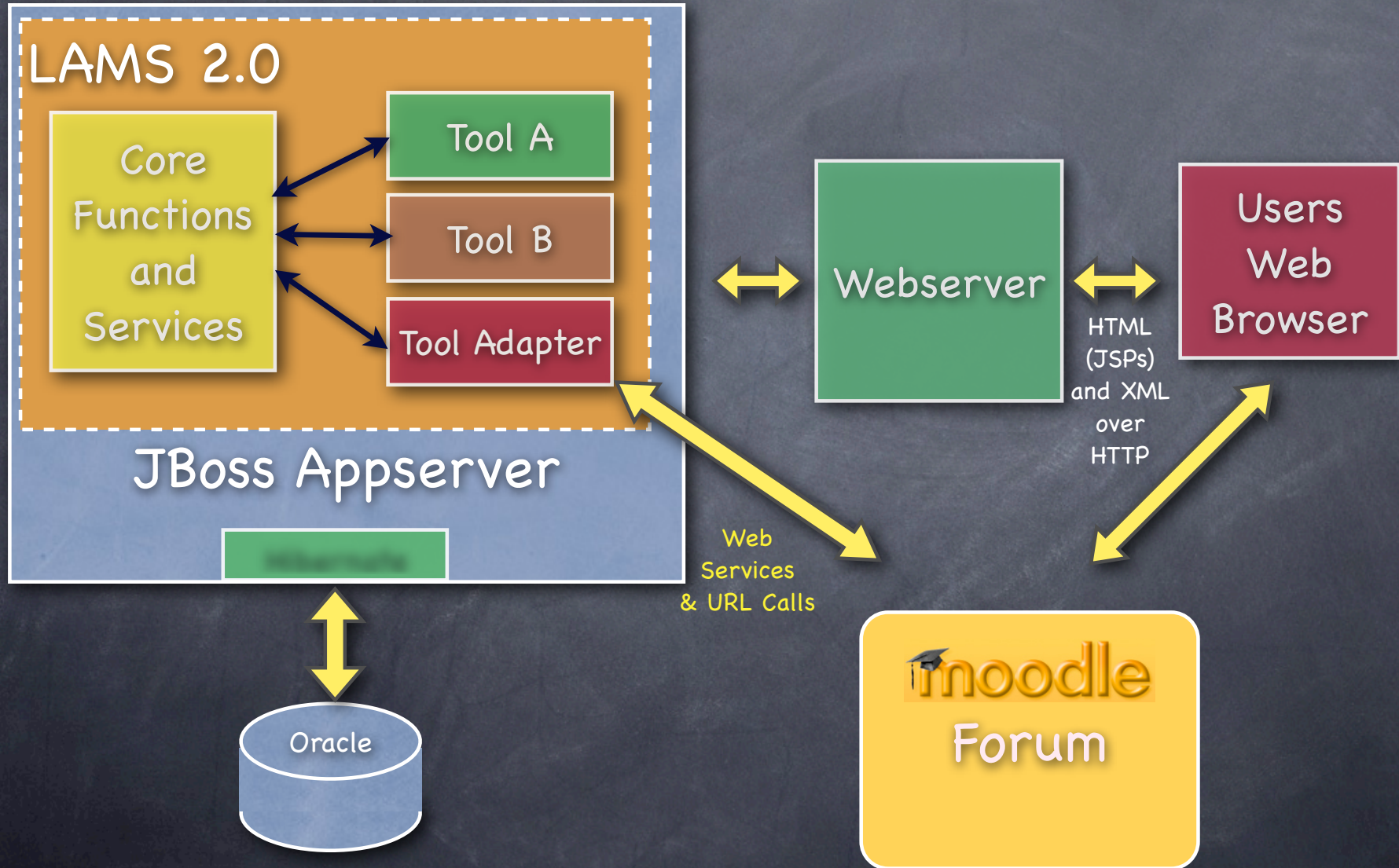


External Tool Wrapper (Moodle Example)

The LAMS/Moodle wrapper provides another level of abstraction to bundle Moodle activities as LAMS native tools that you can drag and drop create learning sequences just like any other tool



LAMS External Tool



Questions?

