



Frinex: Framework for Interactive Experiments

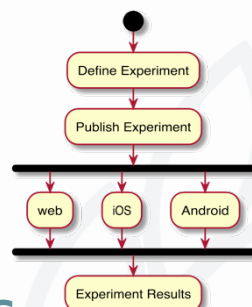
Experiment software under development

Peter Withers, peter.withers@mpi.nl

Experiment Group, MPI Nijmegen.

Frinex Goals

- Provide software for interactive scientific experiments
- Separate the experiment design from the software implementation.
- Allow reuse across experiments, eg stimulus or activities or metadata.
- Prevent the need for continuous redevelopment of the same or similar experiment software.
- Make the individual experiment applications available to the researchers so that re runs and post publication experiment validation are possible.
- Provide experiments on mobile devices and via the web.
- Modularise development so that components can be added / changed / replaced.



Templates

The current template is based on SynQuiz ¹ and LingQuest ², which are iOS and Android applications developed in the Language In Interaction ³ project. These apps are already in the various app stores.

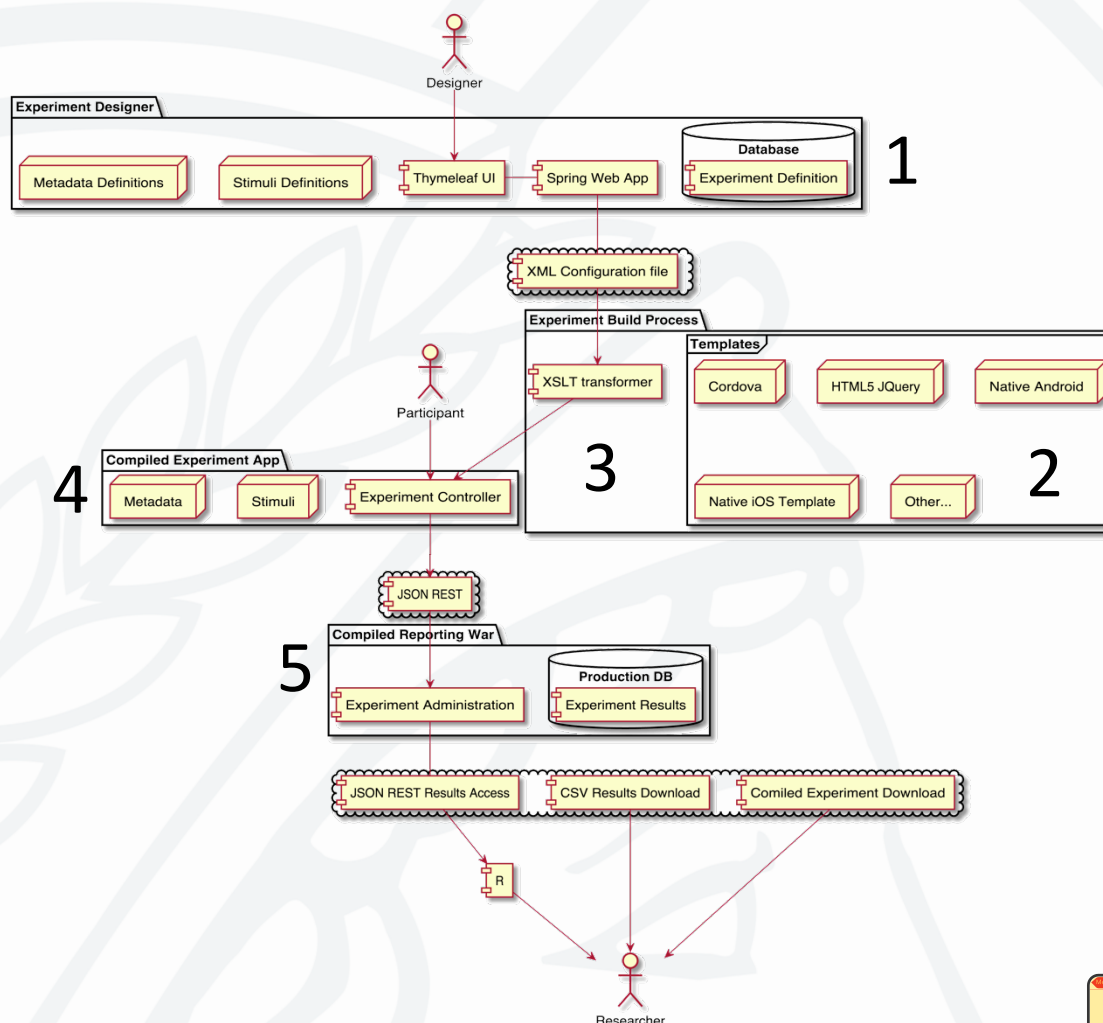
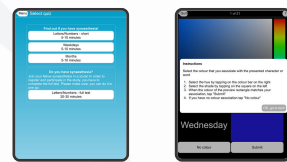


This template produces:

- Web experiments
- iOS experiments
- Android experiments
- Can produce other platforms, facebook, desktop, wince ...

Other templates can be developed as needed:

- Native iOS
- Native Android
- Unity3D?
- Minecraft?
- Chrome apps?



System Overview

- 1) Experiment designer interface
 - Configure: screens, metadata, stimulus...
- 2) Experiment application templates
 - Templates can be created in different technologies
 - This is the code that becomes the experiment app
- 3) Compilation process
- 4) Compiled experiment
 - Self contained application, mobile / web
- 5) Experiment results administrator
 - Viewing and downloading experiment results
 - Managing participants

Submodules

Submodules can exist within a template when the technologies are compatible:

- Elements of the DOBES annotator prototype ⁴ have been included in the system and could be used to collect and display time aligned annotations
- Elements of KinOath ⁵ such as kintype diagrams could be included to allow for the collection and annotation of kinship data
- The WAV recorder and CSV writer from FieldKit ⁶ has already been included as a submodule

Getting the results

Web based results

- Download zip file of CSV output
- Direct query with JSON output, eg via R (planned)

Offline SD card (mobile apps only)

- CSV time aligned output
- Audio/video recordings
- Post processing in ELAN



References

- <https://www.languageininteraction.nl/synquiz.html> ¹
<https://www.languageininteraction.nl/lingquest.html> ²
<https://www.languageininteraction.nl/> ³
 The DOBES annotator prototype was developed by the TLA but not published ⁴
<https://github.com/KinshipSoftware/KinOathKinshipArchiver> ⁵
 FieldKit was developed by the TG but not published ⁶