**Making a Contribution: Modularity, Integration and Collaboration Between Tools in Pliny**

John Bradley, Centre for Computing in the Humanities, King’s College London
http://pliny.cch.kcl.ac.uk, john.bradley@kcl.ac.uk

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**Annotating Everything:** Scholarly annotation might span all kinds of digital and non-digital materials. A scholar might want to associate anything

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**What is Pliny?**

- Pliny is about two things: It illustrates
  1. some of the potential that arises out of developing software that supports annotation and networking for the Humanities, and
  2. some of the issues for Graphical User Interfaces (GUI) that should be considered when developing moduler software

- This poster is primarily about item 2.

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**Toolkits for Humanists: Pipelining**

- Much discussion about toolkits for humanities has focused on a modular approach that centers on the idea of computing applications that must work together.

- Pipelining has also proven to be a powerful model for many research environments for very large complex applications.

- Pipelining supports certain types of computing applications better than others, and which is shaped by the GUI interface

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**Annnotation and resource enrichment: direct manipulation**

- An important element of scholarly work is enrichment: adding a new layer of materials on top of base materials.

- This requires a different kind of interface than that for digital materials.

- Annotation/Notetaking cannot be modelled effectively in textual transformation.

- An important element of scholarly work is toolkits for humanists has an important role to play in this: they allow direct manipulation with materials provided by my VLMA plugin

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**Pliny within VLMA**

- The Pliny plugin can contribute annotation support to other plugins (such as the VMLA example).

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**Conclusions**

- These mechanisms support collaboration between different plugins.

- Building tools that work together in this way still requires coordination between implementers, but provides a framework in which such coordination is more effective.

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**Implications for Software Development**

- The benefits come at a cost, however:
  - Eclipse creates applications, not websites. Tools such HTML, CSS, XML, and ASL provide only peripheral assistance to application development.
  - The Eclipse framework operates within Java, but is not built on the original Sun Java API (which plugins, standards, and libraries are built on)
  - Development of tools in this way requires a high professional attitude to software development, that might go beyond the resources available to many in the humanities.

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**Acknowledgements**

- Pliny’s development was made possible by the provision of research leave for myself at King’s College London
- I am deeply grateful to CCH, and in particular to the head of CCH, Harald Shurt, for making this possible.
- And I am grateful to Wilt McCarty with whom I have spoken from time to time about scholarly research and practice, and who has given me many useful insights.

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**Reference to a VLMA object**

- Annotation components from the Pliny plugin could exist and co-operate with materials provided by my VLMA plugin

- The following 2 screenshots show this in operation.

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