Towards a reference curriculum for the Digital Humanities

Moderator: *Manfred Thaller, Universität zu Köln*

Digital Humanities 2012, July 15th 2012

Setting the agenda

Historisch
Kulturwissenschaftliche
Informationsverarbeitung

09:00 – 10:30 Setting the agenda

Types of degree courses …

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Empirical base

15 universities

a) 10 BA /BSc programs
b) 12 MA / MSc programs
c) 2 “certificates”
d) 1 “embedded degree” within Humanities course

Estimate: 5 – 6 universities missing

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Historisch Kulturwissenschaftliche Informationsverarbeitung

Attempt at a typology

- **MAs in Digital Humanities**
- **BAs in Digital Humanities**
- **MAs in information science or as a specialization of a Comp. Sci. course with a Digital Humanities focus**
- **BAs in information science or as a specialization of a Comp. Sci. course with a Digital Humanities focus**
- **BAs / MAs with Comp. Sci. as minor**
- **MScs / MAs with a Humanities focus at Comp. Sci. schools**
- **BScs / BAs with a Humanities focus at Comp. Sci. schools**
- **“Certificates” of Digital Humanities**
- **["Joint Degrees" (taught by more than one university together)]**

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Observations towards a typology of scope

- degrees adding DH knowledge to classical Humanities content
- degrees targeting DH and classical Humanities content to memory institution training
- degrees adding Comp. Sci. knowledge to classical Humanities content
- degrees adding Humanities knowledge to classical Comp. Sci. content

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Observations on consensus between courses and proponents

- Modeling and formalizing should be a core component of curriculum
- Theoretical understanding of modeling issues should be underpinned by skills to support their application by tools
- Standards have to be known

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Observations on disagreements between courses and proponents

- **Modeling and formalizing: UML or X-technologies or application of a specific standard?**
- **Skills: XSLT or PHP or Java? Administrate your own server?**
- **Standards …**

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Standards important for the Digital Humanities 1

- Encoding: ASCII, Unicode
- Meta languages: SGML, XML (incl. Namespaces)
- Schema languages: DTD, xml schema, rng, ANSI-SPARC Architecture, Unified Modeling Language (UML), Entity-Relationship-Models
- Meta data languages: RDF
- Metadata: TEI-Header, Dublin Core, OAI-PMH
- Text encoding: TEI, MEI

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Standards important for the Digital Humanities 2

- ❖ **Data formats and Codecs and Codecs**
- **Text: pdf, particularly pdf/a, TeX/LaTeX, rtf**
- **Image: jpg, png, tiff, SVG**
- **Audio: wav, mp3, flac**
- **A/V: quicktime, MPEG-4, H.264, AVI, FLV**
- **Geographical Information Systems: OpenGis Standards**

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Historisch Kulturwissenschaftliche Informationsverarbeitung

Standards important for the Digital Humanities 3

- Ontology languages: OWL, RDF, Topic Maps, SKOS
- Cultural heritage standards (libraries, museums, archives):
- AACR, RAK (Germany), METS, MODS, EAD, CIDOC CRM, LIDO, RSWK (Germany), DDC, RVK, ICONCLASS, MARC21 / MARCxml, PND, SWD, GKDMETS, Z.39.50
- Internet / Web: HTTP, URI (incl. URN,URL), HTML, CSS, OSI model, TCP/IP, doi, purl
- Retrieval: xpath, xquery, SQL

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Standards important for the Digital Humanities 4

- Linking: URI (incl. URN,URL), xpointer, xlink
- Text formatting: HTML, CSS (->Web), xsl:fo, TeX / Latex
- Programming languages: javaScript, perl, python, java, c++
- XML processing: xslt, xproc

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Standards important for the Digital Humanities … on levels

(1)Know that it exists, ist principal field of application,ist function. In some cases know software for handling.

Example: pdf

(2)Also: Understand its basic specification.

Example: CIDOC-CRM.

(3)Also: Good knowledge of the standard, experience in its application.

Example: TEI.

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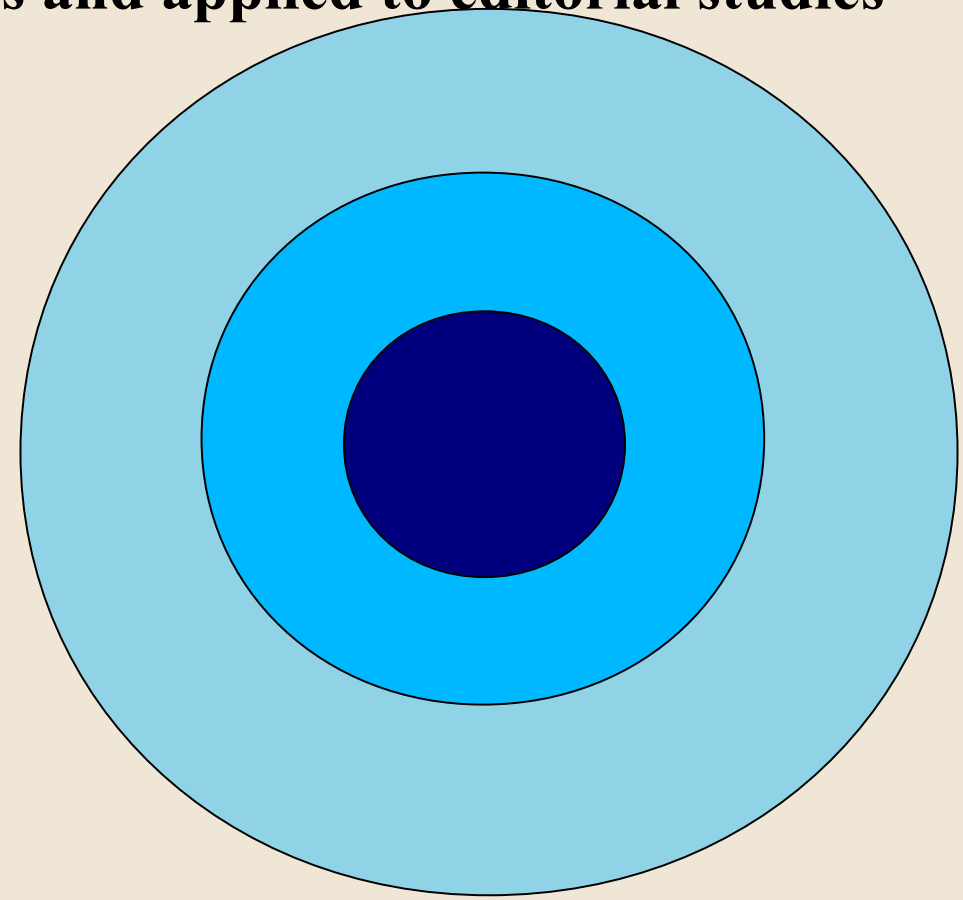
A Digital Humanities degree with an emphasis on textual technologies and applied to editorial studies



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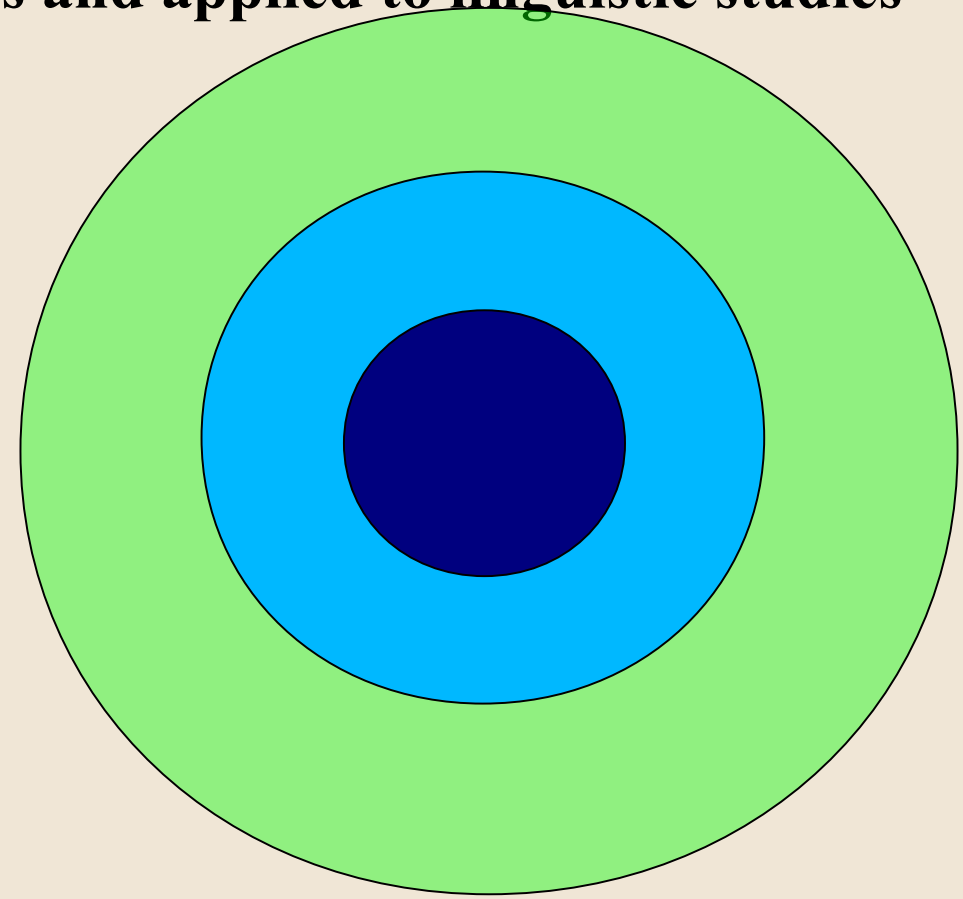
A Digital Humanities degree with an emphasis on textual technologies and applied to linguistic studies



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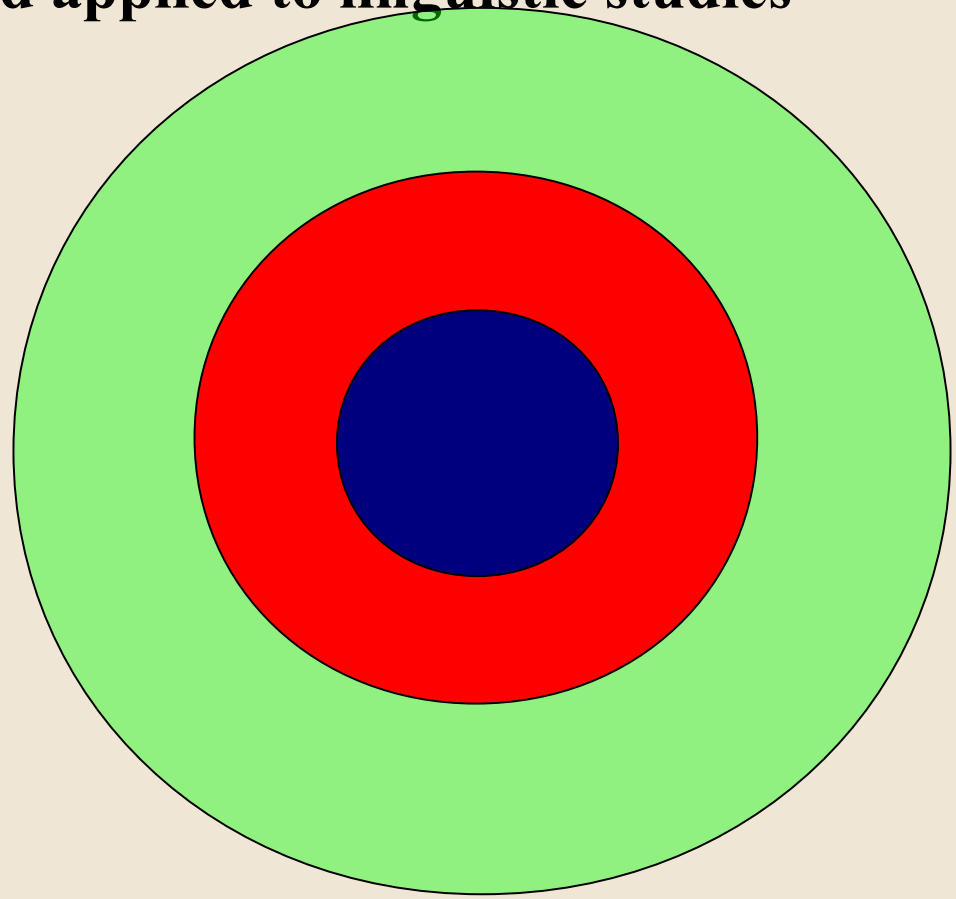
A Digital Humanities degree with an emphasis on quantitative methods and applied to linguistic studies



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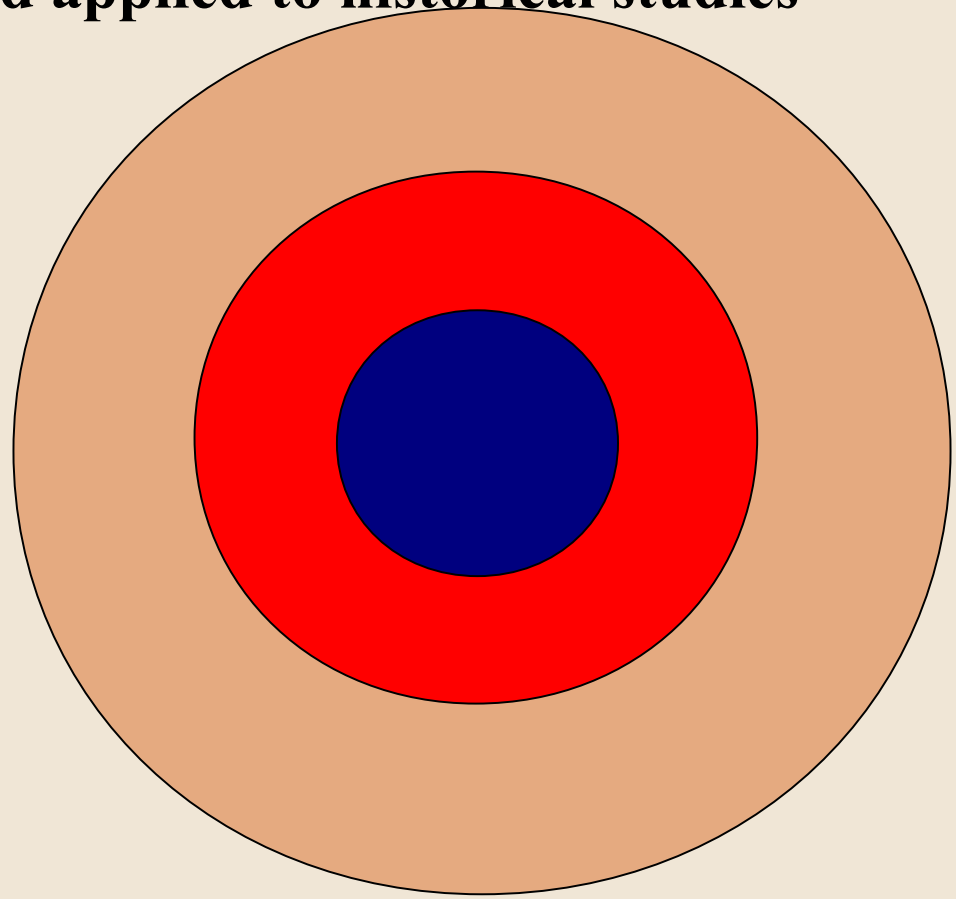
A Digital Humanities degree with an emphasis on quantitative methods and applied to historical studies



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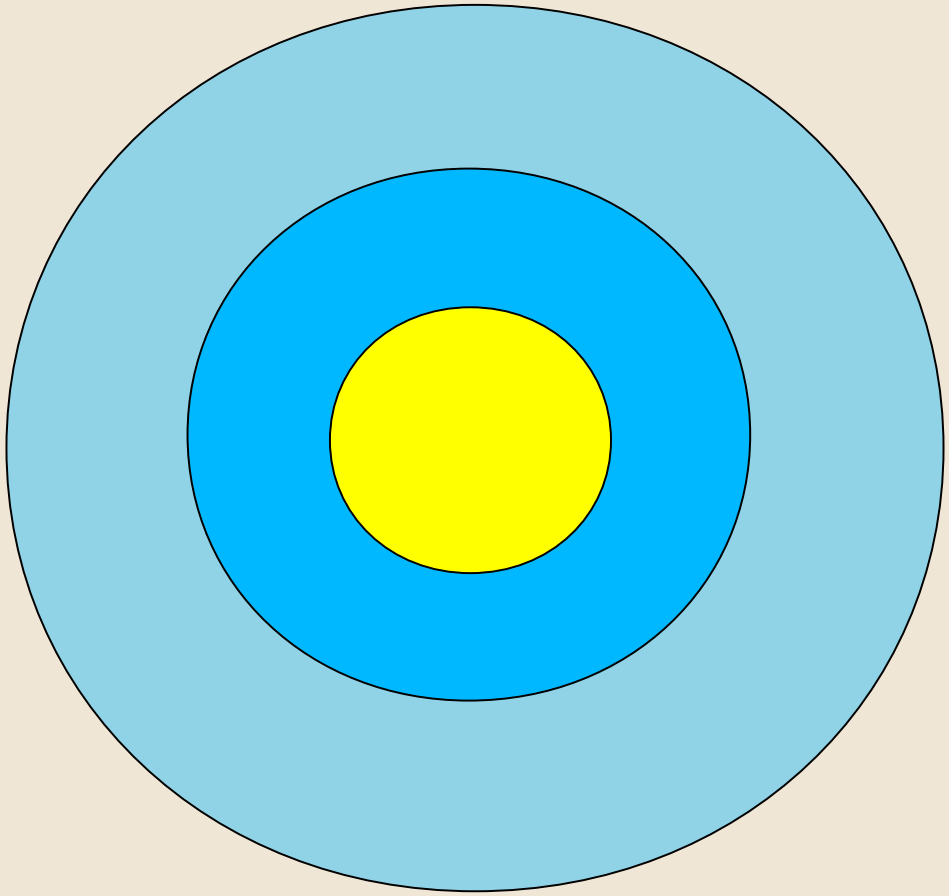
No Digital Humanities degree



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Why?

(1)Probability of political pressure to make degree courses more compatible.

(2)Make conditions for admission more compatible.

(3)Make it easier to establish new degree courses.

(4)Give graduates a easily understable profile on the job markets.

(5)Make exchange between European academic landscapes easier …

(6)… and establish ERASMUS MUNDUS degree courses?

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An example (M. Thaller): Modeling / Formalization in the core curriculum.

<u>Modeling:</u> To model a Humanities problem allows its representation in such a way, that based on the model an algorithmic treatment becomes possible.

<u>Formalization:</u> To formalize a Humanities problem allows its representation in such a way, that based on the model an algorithmic treatment becomes possible. It includes the ability to implement the solution.

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Modeling 1 / basic concepts

<u>Mandatory:</u>

(1) Understanding information v. meta information / data v. meta data

(2) Ladder of knowledge: data / information / knowledge / wisdom

(3) Handling of language: syntax / semantics / pragmatics

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Modeling 2

<u>Recommendation:</u>

Extend analytical categories to at least one non-linguistic field.

This may lead to fields as:

(1)Basics of model based simulation of processes-

(2)Basics of cartography / GIS

(3)…

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Modeling 3

Implementation:

At least one, usually two of the following:

(1)Design of a markup system and describing it in XML schema.

(2)Mapping a conceptual system into an ontology.

(3)Conceptual model of a data base schema.

(4)Definition of an use case:

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Formalization

Level definitions:

(1)Procedural tools: PHP, Python, Pearl

(2)Non procedural tools: XSLT, XQuery / Lisp, Prolog

(3)Object oriented programming: Java, C++

Core requirement:

Fluency in at least one tool from two of the three levels.

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Commonalities I

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11:00 – 12:30 What do we have in common? 1

Add skills for finding data, curating and preserving them.

Relationship between curatorial skills and content diciplines.

Proposal:

Level one: How to enable *all* Humanities disciplines digitally and creating general digital content? Augmentation of other curicula

Level two: How to train a Digital Humanist in his / her own right and the creation of discipline specific digital content? ➔ Profession

Level three: How to train curators curating Humanities' digital content? ➔ Profession

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Commonalities I

The Powerpoints of this morning are available at:

http://www.dh2012.uni-hamburg.de/wp-content/uploads/2012/07/2012-07-16Hamburg-DH2012.ppt

(Simply go to the abstract page in the overall program and click upon: “Download the powerpoint presentation for this workshop”)

Commonalities II

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Collecting three most important building blocks

I.

(1) v Intro into Comp. Sci.

(2) v Intro into practical Media Informatics
[Digital Media]

(3) v Module on data / meta data standards
involving hand on experience.

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Commonalities II

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Collecting three most important building blocks

II.

(1) Previous Humanities expertise (MA); confrontation with one or more case studies of Dig. Hum. (BA).

(2) Module on data / meta data standards involving hand on experience.

(3) Some programming.

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Commonalities II

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Collecting three most important building blocks III.

(1) General information literacy.

(2) Information ethics.

(3) Building scholarly digital objects. (MA)

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Commonalities II

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Collecting three most important building blocks

IV.

(1) State of the art digital Humanities in (at least) one discipline. (BA – MA)

(2) Modeling / e.g. TEI, also extending TEI.

(3) Operationalizing problems; implementing solutions. ➔ Technical standards. ➔ Programming in general level.

(4) Example project / case studies.

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Commonalities II

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Collecting three most important building blocks

V.

(1) Analyzing digital Humanities projects. (BA?; MA?)

(2) Serialization into TEI or sim.

(3) Programming methods.

(4) Build your own project.

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Commonalities II

Collecting three most important building blocks VI a BA without prerequisite major.

(1) Programming.

(2) Data structures (underlying standards) …

(3) Application basic knowledge.

Commonalities II

Collecting three most important building blocks

VI b BA without prerequisite minor.

(1) Data structures (underlying standards) … – narrower scope.

(2) …

Commonalities II

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Collecting three most important building blocks

VI c MA.

(1) [Knowledge about value of applying digital solutions.]

(2) […]

(3) Implementing digital solutions.

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Preliminary major modules

5 – Implementation of example project

4 – Programming

3 – State of the art of the Digital Humanities

2 – Metadata

2 – Structured data and data standards (covers: TEI)

Preliminary major modules

What do we mean by (on BA level major only):

5 – Implementation of example project

Analyzing a research problem of the Humanities or one of their sources, finding a suitable way to structure the data, selecting an appropriate tool for its handling, applying it and documenting the outcome.

Note: Will frequently be implemented as thesis.

Preliminary major modules

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What do we mean by (on BA level):

4 – Programming

Low level: 6 CPs object oriented Programming, can be implemented by Scripting languages (Ajax, XRX). NO math – minor.

High level: 12 – 18 CPs including software technological issues, requires Higher Programming Language. SOME math -major

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Preliminary major modules

What do we mean by (on BA level):

3 – State of the art of the Digital Humanities

To understand value of digital methods, traditional ones have to be understood.

Teach broad spectrum of tools, applied to examples from different disciplines?

Textbook for first year needed? (Recent DH literature to high level.)

Preliminary major modules

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What do we mean by (on BA level):

2 – Metadata

Introduce into knowledge representation in a very broad definition, starting with classical categorization schemes and potentially going up through to ontologies and the like. Familiarize with different standards for different domains. Include legal aspects.

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Preliminary major modules

What do we mean by (on BA level):

2 – Structured data and data standards (covers: TEI)

Allow understanding of differences between structured, semistructured and unstructured approaches and allow educated choices between them. Familiarize with different standards of encoding formats for different domains.

Preliminary major modules

What do we mean by (on MA level):

5 – Implementation of example project

For MA programs which do not require a previous BA in DH, similar to BA level.

Otherwise: audience exhausted.

Preliminary major modules

What do we mean by (on MA level):

4 – Programming

For MA programs which do not require a previous BA in DH, similar to BA level.

Otherwise: audience exhausted.

Preliminary major modules

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What do we mean by (on MA level):

3 – State of the art of the Digital Humanities

For MA programs which do not require a previous BA in DH, similar to BA level.

Otherwise: audience exhausted.

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Preliminary major modules

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What do we mean by (on MA level):

2 – Metadata

For MA programs which do not require a previous BA in DH, similar to BA level.

Otherwise: audience exhausted.

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Preliminary major modules

What do we mean by (on MA level):

2 – Structured data and data standards (covers: TEI)

For MA programs which do not require a previous BA in DH, similar to BA level.

Otherwise: audience exhausted.

A module x “highlight” matrix

P = Primary
S = Secondary
al = ad libidem

Module	Data bases	Media Types	GIS	X Technologies	IR / Search engines	Semantic Technologies
Example project	al	al	al	al	al	al
Programming	S					
State of the art	al	al	al	al	al	al
Metadata	S			S	x	P
Structured data	P	P		P	x	S

Things to do

(1) Write to audience, asking for additional curricula and study description.

(2) Iff they arrive, internationalize existing web resource.

(3) Also ask for “raw links” to degree home pages.

(4) Iff, see 2 above.

(5) Coordinate with centernet.

(6) Announce on LinkedIn. (check Florentina)

Thanks?

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