



# SOFTWARE METHODOLOGIES IN DIGITAL HUMANITIES

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User-centered approach

Roberto Therón

**COST ENeL WORKING GROUP 4 Meeting**

USER DRIVEN INNOVATION IN eLEXICOGRAPHY

—

DESIGNING COLLABORATIONS FOR CULTURAL EXPLORATION

**SALAMANCA** 3.11.2016

A man in a dark suit and tie stands in front of a brick building. To his left is a white sign with black text that reads "CENTRE FOR CULTURE AND TECHNOLOGY". The man is looking slightly upwards and to the right. The building has a window with a white frame above the sign.

CENTRE FOR  
CULTURE AND  
TECHNOLOGY

“We shape our tools, and then  
the tools shape us.”

# MY VIEW



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Present technologies make it possible to **achieve projects** that were impossible until recently, but the field is currently facing the challenge of proposing frameworks and systems to **generalise** and **reproduce** these proposals in other knowledge domains with similar but heterogeneous data sets.

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**The field of research in digital humanities is undergoing a rapid transformation in recent years**

- \* the volume, heterogeneity and complexity of datasets
- \* available infrastructures
- \* inclusion of citizens in the creation and consumption of the cultural resources offered
- \* etcetera

**BUT... WHAT IS THE STATE OF THE  
ART REGARDING USER-CENTERED  
DESIGN IN DH?**

WELL-DESIGNED DIGITAL TOOLS  
FACILITATE THE CREATION OF NEW  
KNOWLEDGE IN THE HUMANITIES.

**GOOD DESIGN IS USER-CENTERED,**  
FOCUSED, AND NEEDS-DRIVEN, ALL  
OF WHICH DEPEND ON A RICH  
UNDERSTANDING OF THE TARGET  
AUDIENCE OR END USER

Murray, A., & Wiercinski, J. (2014). A Design Methodology for  
Web Based Sound Archives. *DHQ: Digital Humanities Quarterly*, 8.

AS MORE DIGITAL LIBRARIES AND DIGITAL HUMANITIES PROJECTS ARE DEVELOPED, IT IS CRUCIAL TO ENSURE THAT THEY ARE DESIGNED WITH THE **USER EXPERIENCE** IN MIND SO THAT THEY ARE **USEFUL, SUSTAINABLE,** AND CAN HELP **GENERATE NEW** METHODOLOGIES AND KNOWLEDGE IN THE HUMANITIES

Murray, A., & Wiercinski, J. (2014). A Design Methodology for Web Based Sound Archives. *DHQ: Digital Humanities Quarterly*, 8.

DECADES OF DIGITISATION HAVE MADE A WEALTH OF DIGITAL CULTURAL MATERIAL AVAILABLE ONLINE. YET **SEARCH** — THE DOMINANT INTERFACE TO THESE COLLECTIONS — IS INCAPABLE OF REPRESENTING THIS ABUNDANCE. SEARCH IS **UNGENEROUS**: IT WITHHOLDS INFORMATION, AND DEMANDS A QUERY.

Whitelaw, M. (2015). *Generous Interfaces for Digital Cultural Collections*. *Digital Humanities Quarterly*, 9(1).

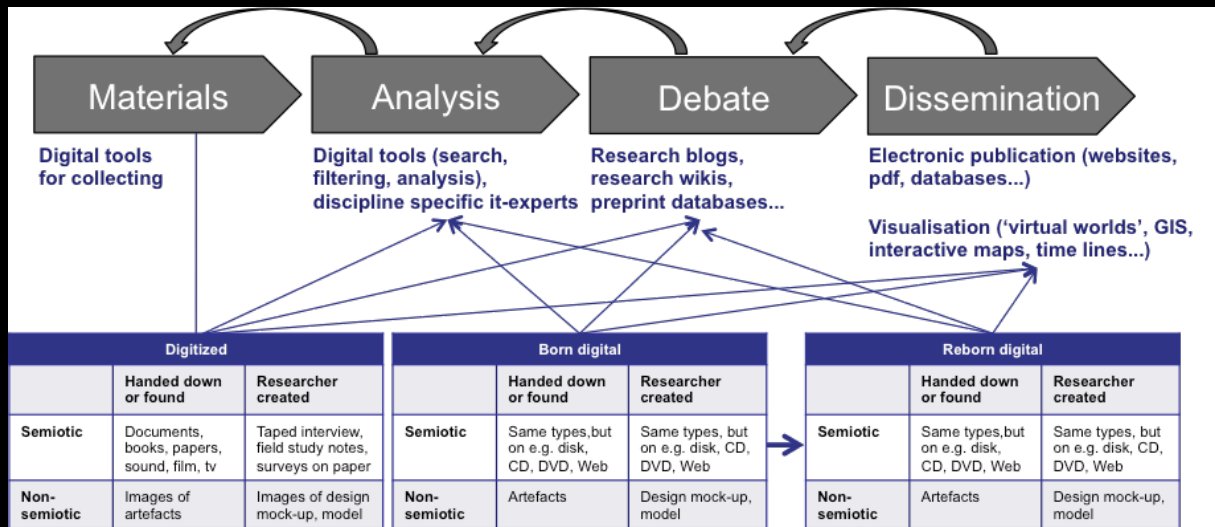
SCHOLARLY  
COLLABORATION IS  
MUCH STUDIED BUT  
LITTLE UNDERSTOOD.

Borgman, C. L. (2009). The digital future is now: A call to action for the humanities. *Digital humanities quarterly*, 3(4).



DESPITE SIGNIFICANT INVESTMENTS IN THE DEVELOPMENT OF DIGITAL HUMANITIES TOOLS, THE USE OF THESE TOOLS HAS REMAINED A FRINGE ELEMENT IN HUMANITIES SCHOLARSHIP. [...] THE RESULTS OF THE STUDY REVEAL THE VARIETY OF USERS INTERESTED IN DIGITAL TOOLS AS WELL AS THEIR **ENTHUSIASM, REACTIONS,** AND **FRUSTRATIONS,** INCLUDING THE **EXPECTATIONS** AND **CONFUSION** THAT HAS CREATED BARRIERS TO TOOL USE AND TO THE WIDER ADOPTION OF NEW RESEARCH METHODOLOGIES

Gibbs, F., & Owens, T. (2012). Building Better Digital Humanities Tools: Toward broader audiences and user-centered designs. *Digital Humanities Quarterly*, 6(2), 2012.



## Digital Humanities in the 21st Century: Digital Material as a Driving Force

**‘ANALYSIS’, ‘PROTOTYPE’, ‘USER  
FEEDBACK’ AND ‘DESIGN’ ARE LOCKED  
INTO ENDLESSLY ITERATIVE CYCLES OF  
‘TASK SPECIFICATION’ AND  
‘DELIVERABLES’. THIS LANGUAGE DOES  
NOT COME FROM A THEORY OF  
INTERFACE, BUT FROM A PLATFORM OF  
PRINCIPLES IN THE SOFTWARE INDUSTRY**

**Drucker, J. (2011). Humanities approaches to interface  
theory. *Culture Machine*, 12(0), 1-20.**

AS DIGITAL VISUALIZATION TOOLS HAVE  
BECOME MORE UBIQUITOUS, HUMANISTS HAVE  
ADOPTED MANY APPLICATIONS SUCH AS GIS  
MAPPING, GRAPHS, AND CHARTS FOR  
STATISTICAL DISPLAY THAT WERE DEVELOPED  
IN OTHER DISCIPLINES. BUT, I WILL ARGUE,  
SUCH GRAPHICAL TOOLS ARE A KIND OF  
INTELLECTUAL TROJAN HORSE

Drucker, J. (2011). Humanities approaches to interface  
theory. *Culture Machine*, 12(0), 1-20.

**PERFORMATIVE MATERIALITY IS BASED ON THE  
CONVICTION THAT A SYSTEM SHOULD BE UNDERSTOOD  
BY WHAT IT DOES, NOT ONLY HOW IT IS STRUCTURED.  
AS DIGITAL HUMANITIES MATURES, IT CAN BENEFIT FROM  
A RE-ENGAGEMENT WITH THE MAINSTREAM PRINCIPLES  
OF CRITICAL THEORY ON WHICH A MODEL OF  
PERFORMATIVE MATERIALITY IS BASED. [...] HOW WE  
MIGHT MOVE TOWARDS INTEGRATING THIS MODEL AND  
CRITICAL PRINCIPLES INTO A MODEL OF HUMANISTIC  
INTERFACE DESIGN.**

**Drucker, J. (2013). Performative materiality and theoretical approaches to interface. *Digital Humanities Quarterly*, 7(1).**

PRAGMATIC, BUT HIGHLY MECHANISTIC  
APPROACH, BASED ON FUNCTIONAL  
MODELS OF TASK AND GOAL THAT ARE  
INAPPROPRIATE IN THE HUMANITIES,  
WHERE "DISTRACTION, ENGAGEMENT,  
FLOW EXPERIENCE AND PLEASURE-DRIVEN  
ACTIVITY ARE NOT GOAL-ORIENTED, BUT  
MOTIVATED BY THE PROCESS"

Drucker, J. (2013). Performative materiality and theoretical approaches to interface. *Digital Humanities Quarterly*, 7(1).



Roberto Therón, Carlos Seguín, Laura de la Cruz, and María Vaquero. 2014. Highly interactive and natural user interfaces: enabling visual analysis in historical lexicography.

In *Proceedings of the First International Conference on Digital Access to Textual Cultural Heritage (DATECH '14)*. ACM, New York, NY, USA, 153-158.

DOI=<http://dx.doi.org/10.1145/2595188.2595215>

<https://www.youtube.com/watch?v=o3wEHPV9wMI>



Anterior Grafo



Siguiente Grafo



Zoom [+]



Zoom [-]



Ajustar

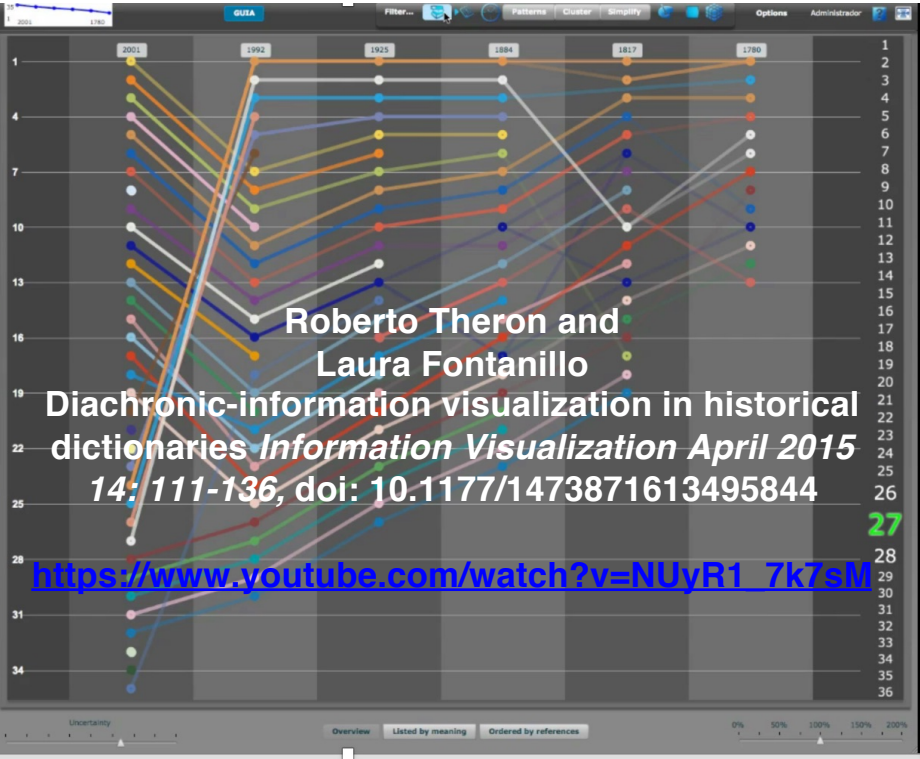




### Dictionary list

RAE U 2001

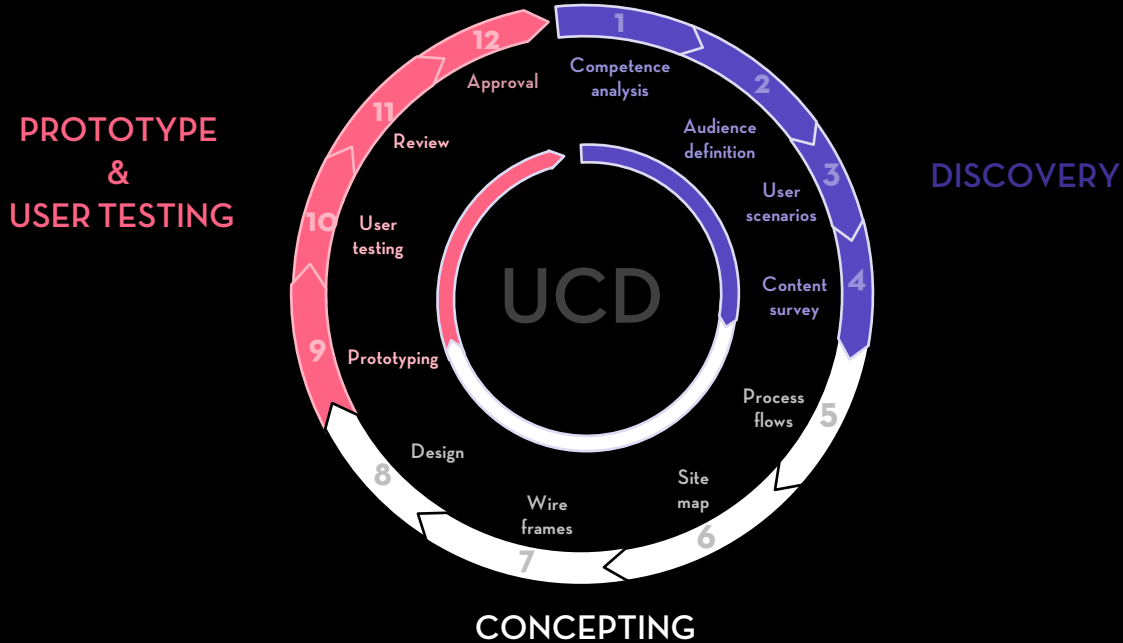
- 1 >> 1. f. aquello que dirige o encamina.
- 2 >> 2. f. poste o pilar grande de carretera que se levanta de trecho en trecho, a los lados de un camino.
- 3 >> 3. f. tratado en que se dan preceptos para administrarse el ejército, un campamento, etc.
- 4 >> 4. f. lista impresa de datos o noticias referentes a determinadas personas, cosas del ejército, etc.
- 5 >> 5. f. despacho que lleva consigo quien transporta mercancías, paquetes, etc. en un camino.
- 6 >> 6. f. mecha delgada con pólvora y cubierta con cera, que sirve para hacer los fuegos artificiales.
- 7 >> 7. f. sarampión o vena que se deja en las cosas a los que se les quiere hacer durar.
- 8 >> 8. f. tallo principal de las confesías y otros árboles.
- 9 >> 9. f. palanca que sale oblicuamente de lo alto del pie para moverse sobre el suelo.
- 10 >> 10. f. en las máquinas y otros aparatos, pieza o resaca que sirve para unir o separar a otros.
- 11 >> 11. f. caballería que, sola o apurada con otra, va delante de un ejército para descubrir al enemigo.
- 12 >> 12. f. cada uno de los extremos del bigote cuando se está hablando.
- 13 >> 13. f. especie de fullería en los naipes.
- 14 >> 14. f. cada una de las dos varillas grandes del alfiler.
- 15 >> 15. f. ingen, veta pequeña a que algunas veces se refieren los filósofos y que sirve para descubrir un camino en la explotación de un campo.
- 16 >> 16. f. mar, cabo o aparejo que sirve para descubrir un camino en la explotación de un campo.
- 17 >> 17. f. mus, voz que va delante en la fuga y a la vez detiene al enemigo.
- 18 >> 18. f. voz, pieza de madera de hilo, de roble, de álamo o madera que se usa para hacer los naipes.
- 19 >> 19. f. riendas para gobernar los caballos de guerra.
- 20 >> 20. m. manillar de la bicicleta.
- 21 >> 21. m. volante ( del automóvil).
- 22 >> 22. m. mar, buque que sirve de referencia a los demás para orientarse en el mar.
- 23 >> 23. m. mar, sargento o cabo que, según las órdenes, administra las tropas en la batalla.
- 24 >> 24. com. persona que encamina, conduce y guía a otros al camino.
- 25 >> 25. com. persona que enseña y dirige a otra persona a hacer lo que se quiere.
- 26 >> 26. com. persona autorizada para enseñar a los alumnos las cosas que se enseñan en el colegio.
- 27 >> 27. com. persona que en los juegos y diversiones de la infancia hace de juez o árbitro.
- 28 >> 1. f. en España, libro oficial que se publica mensualmente y contiene los nombres de las personas que han fallecido en el mes anterior.
- 29 >> 1. loc. adv. gobernando un solo cochero con dos caballos que tiran de un carruaje.
- 30 >> 1. loc. adv. dicho de una caballería: que, en un momento, se levanta y marcha al galope.
- 31 >> 1. locs. verbos. atropellando, no dando lugar a una respuesta.
- 32 >> 1. locs. advs. arts. guiando, dirigiendo.



**Roberto Theron and**  
**Laura Fontanillo**  
**Diachronic-information visualization in historical**  
**dictionary *Information Visualization* April 2015**  
**14: 111-136, doi: 10.1177/1473871613495844**

[https://www.youtube.com/watch?v=NUyR1\\_7k7sM](https://www.youtube.com/watch?v=NUyR1_7k7sM)

# USER-CENTERED DESIGN

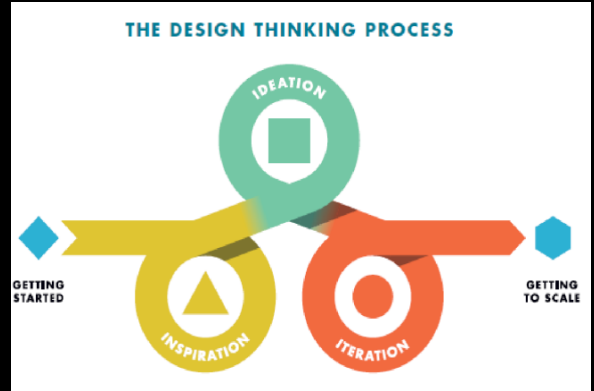


# IDEO DESIGN THINKING PROCESS

Focus on user and need finding

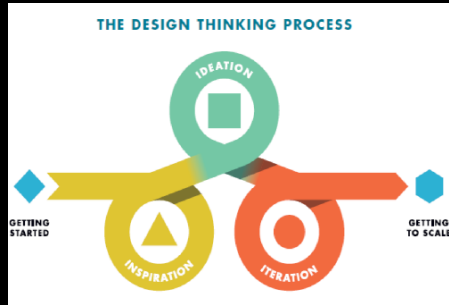
Bias toward action and cycling through many solutions  
(fail early, fail forward)

Cyclical--loop through stages one or many times



# INSPIRATION

Observe  
Engage  
Watch and Listen

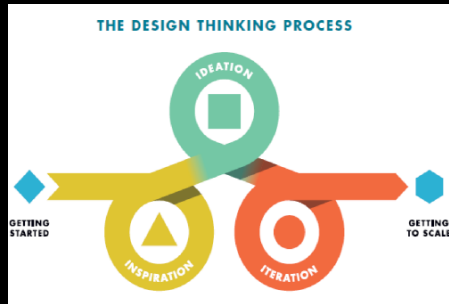


# IDEATION

Generate the broadest range of possibilities

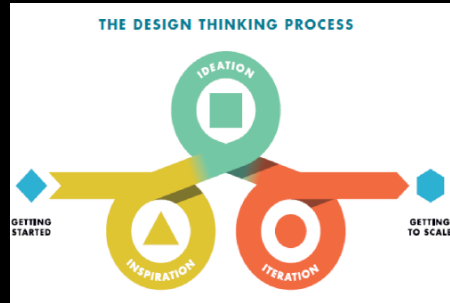
Talk, sketch, write down or physically build

Separate generation of ideas from judgment of ideas



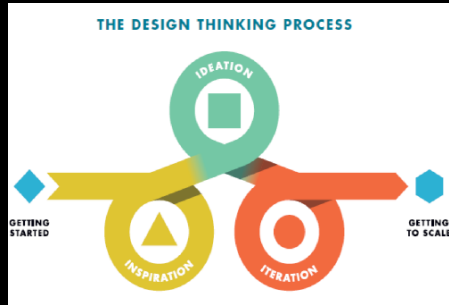
# ITERATE - BUILDING A PROTOTYPE

“A prototype can be anything that a user can interact with – be it a wall of post-it notes, a gadget you put together, a role-playing activity, or even a storyboard.” - d.school



# ITERATION

Get feedback on prototype - bring it back to the user  
Enhance empathy



I ADDED ALL OF THE  
PRODUCT FEATURES  
THAT EACH OF YOU  
DEMANDED.



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NOW OUR PRODUCT  
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HODGEPODGE OF  
COMPLEXITY.



I APPRECIATE YOUR  
INPUT. I COULDN'T HAVE  
FAILED WITHOUT YOU.



TEAM-  
WORK!

WE NEED  
THREE MORE  
PROGRAM-  
MERS.



USE  
AGILE  
PROGRAM-  
MING  
METHODS.

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AGILE PROGRAMMING  
DOESN'T JUST MEAN  
DOING MORE WORK  
WITH FEWER PEOPLE.



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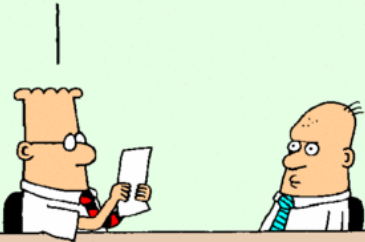
FIND ME SOME  
WORDS THAT DO  
MEAN THAT AND  
ASK AGAIN.





# THANKS

YOUR USER REQUIREMENTS INCLUDE FOUR HUNDRED FEATURES.



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DO YOU REALIZE THAT NO HUMAN WOULD BE ABLE TO USE A PRODUCT WITH THAT LEVEL OF COMPLEXITY?



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GOOD POINT. I'D BETTER ADD "EASY TO USE" TO THE LIST.

