



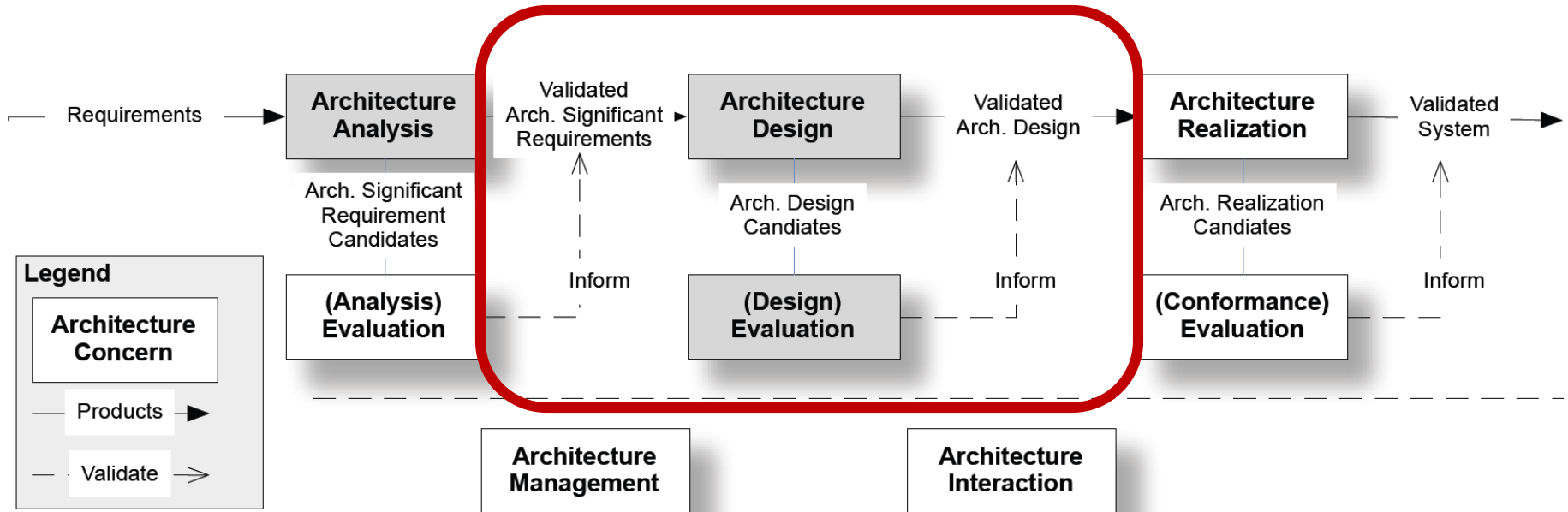
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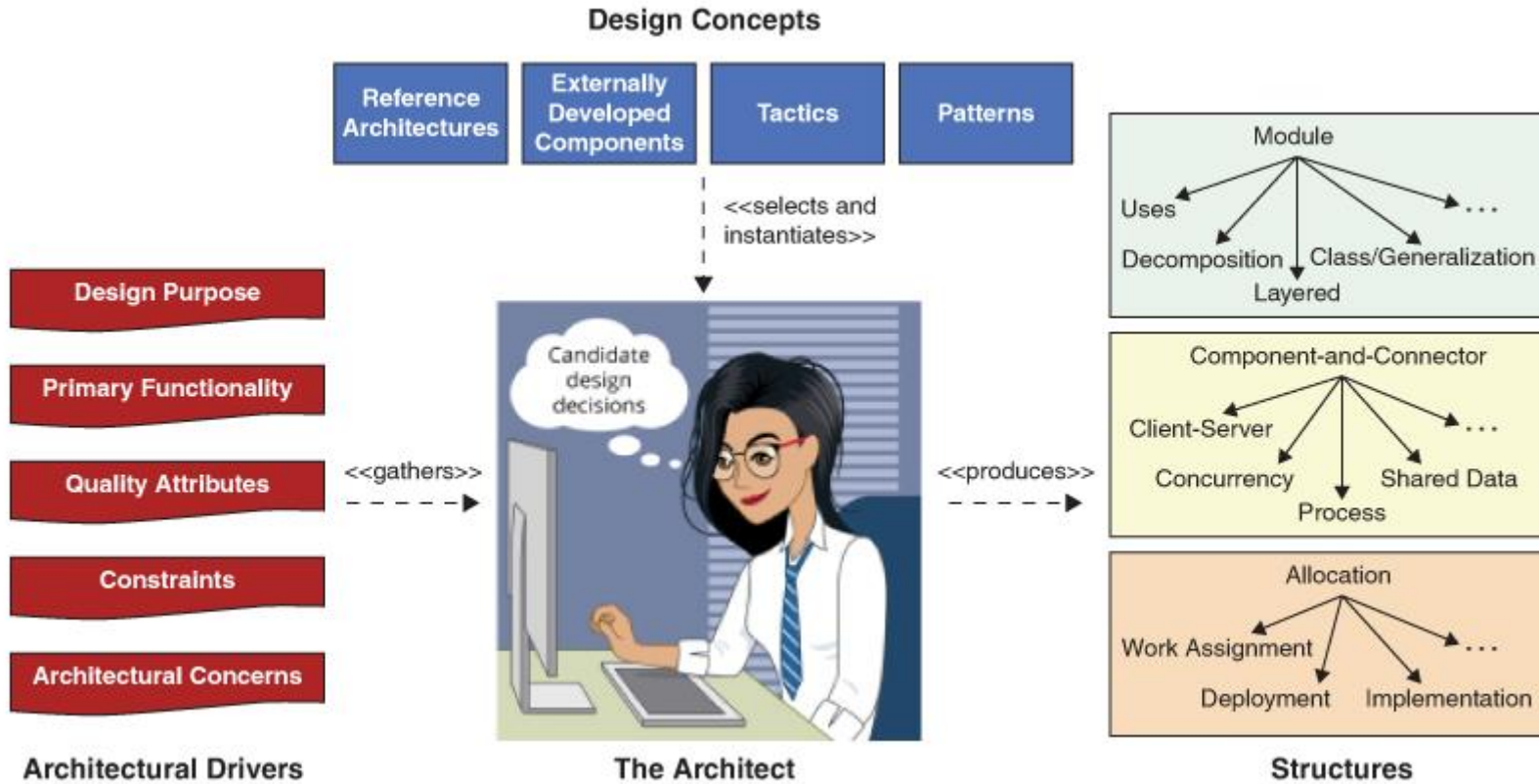
Software Architecture in Practice

Attribute-Driven Design

Henrik Bærbak Christensen

- *A creative process...*





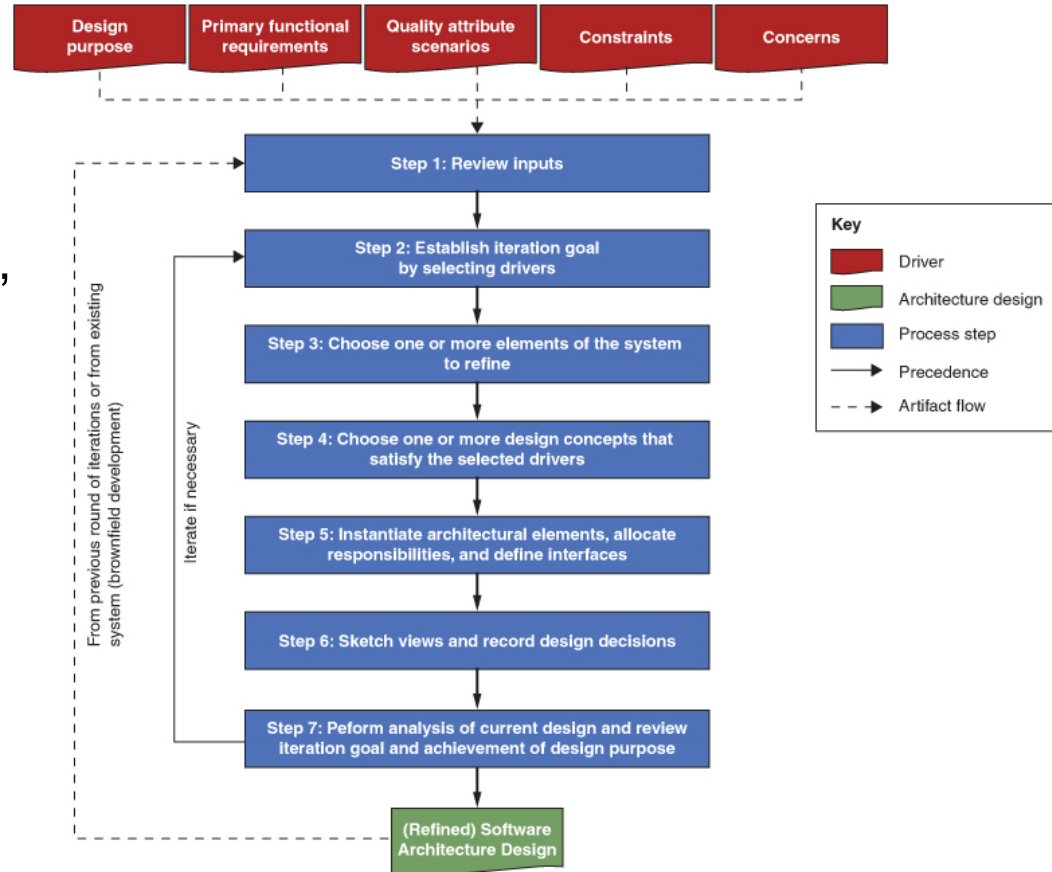


Assembling the Pieces

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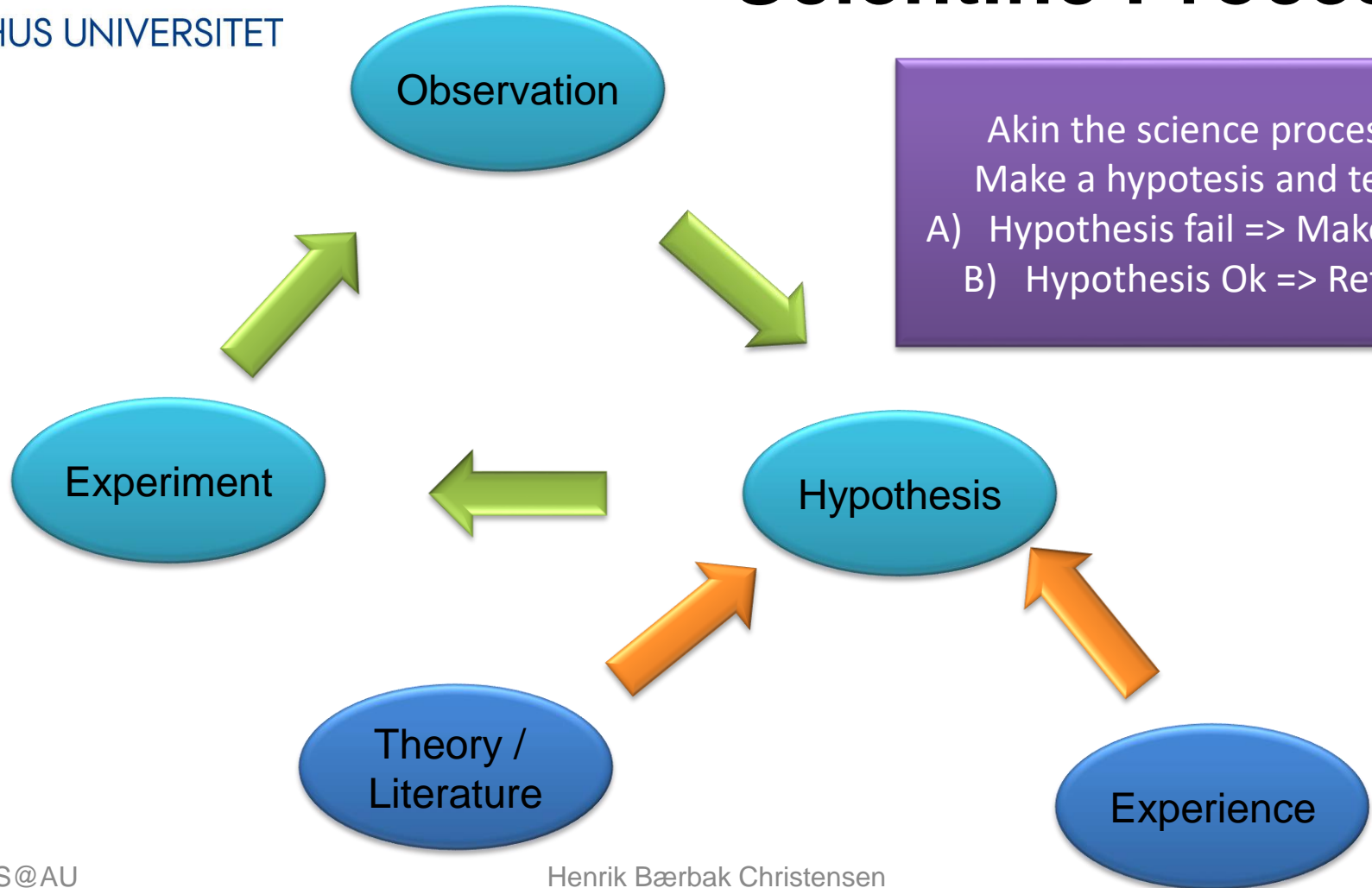
- Design is the process of *getting all the pieces into place*
 - ASR: Architectural significant requirements
 - QAS: Quality attribute scenarios
 - Tactics and Patterns: Mini-architectures to be reused

- A well-defined iterative process
- Seven “steps”
 - “stepwise refinement”
 - “top-down”

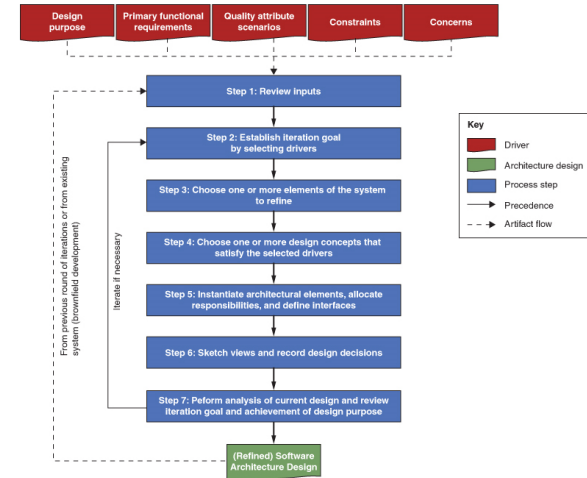




Scientific Process



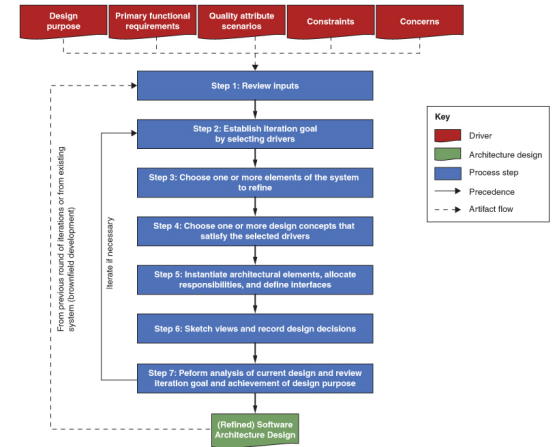
- Steps ..
 - Review inputs
 - From previous round + ASR, QAS, ...
 - Set Goal
 - What is the goal of this round?
 - Elements to Refine
 - Typically *decomposition* into more elements
 - Initially you have System
 - Breath-first, depth-first, *risk-based*, staffing-based (timing)



- Steps

- Design tactics/patterns to apply
 - ... that satisfy drivers/ASR
- Instantiate elements
 - ‘draw the boxes and lines’
 - Allocate responsibilities
 - Define “interfaces”^{*}
 - » Relationships = ‘Connectors’ in CC view
- Sketch views + record design decisions
 - *Get it down on paper in preliminary form* 😊

- *) Interface as in *The protocol we exchange control and data via*; not as in C# interface

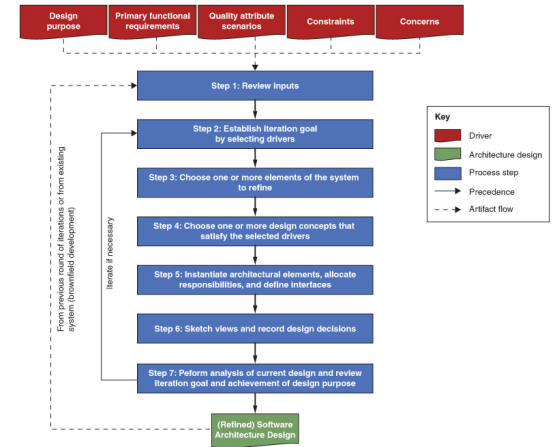


- Steps
 - Analyse current design
 - Go over the round and ensure you got it right by reviewing goals, and match them with your design

- *Goto 1 until 'enough'*

- When do you stop?

- Risk based – covering the central top-voted QaS from the QAW...
 - The architectural drivers...





- Well – not overly surprising? Generally makes sense...
 - Perhaps a bit ‘top-down’ and ‘waterfallish’
 - But incorporates much more ‘use prototyping’ than earlier releases of the ADD model which I appreciate 😊...