Responsible Retrofit Guidance Wheel

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Link (requires Login):

Updated: https://responsible-retrofit.org/greenwheel/

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Guidance wheel: the brief #1

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☑ The guidance tool is intended as a decision-making aid not as a primary information source, but may lead the user to further support content.

Guidance wheel: the brief #2

Excerpt from Design Proposal v1p1

The aim of the tool is to provide an interface for exploring:

- the measures (e.g. fit secondary glazing) available when retrofitting a traditional building
- the risks associated with measure/context combinations e.g. fitting double glazing presents heritage concerns
- the interactions between measures e.g. if draughtproofing is being considered, ventilation should be considered too

The tool must be engaging and playful and mustn't drown the user in too many technicalities. Its primary purpose is to educate users that retrofitting a traditional building is not a simple fix, that measures are heavily interdependent and that there is a lack of research knowledge in some areas.

Although not primarily an informational tool, ideally the tool will allow the user to find further technical content should they wish.

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  - Changes cascade automatically to the user interface without need for re-programming.

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- For STBA/DECC:
  - Communicating complex information responsibly and even-handedly.

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- *Context* for the above.
  - E.g. Condition and state of repair, orientation

The idea #1 Starts in a shed.

The idea #2 Physical mock-up (shows second layer)

M = Moisture Risk
M¹ = Interstitial Condensation
M² = Moisture Ingress and/or trapped
M³ = Moisture Out - Ventilation needed

D = Detail Care needed
D¹ = Thermal Bridges
D² = Stair adjustment
D³ = Detail for access
D⁴ = Condensing plume location

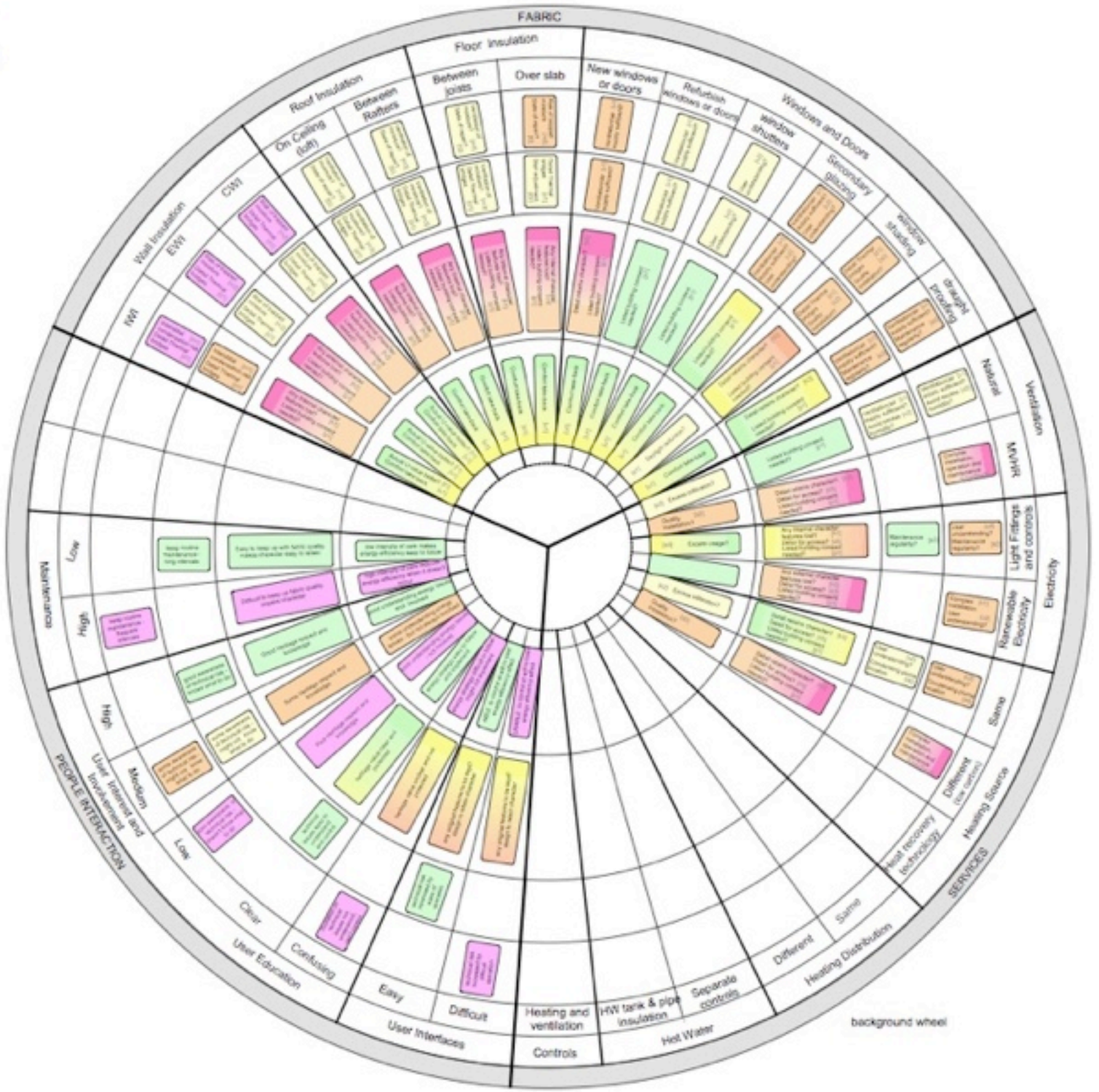
F = Fabric uncertainty
F¹ = Actual U-value?
F² = State of repair?

V = Ventilation sufficient?
V¹ = Air supply for normal use
V² = Avoiding excess humidity
V³ = Avoiding excess heat

E = Energy implication
E¹ = Daylight reduction?
E² = Excess infiltration?
E³ = Excess usage?

A = Aftercare needed
A¹ = Handover to user
A² = Maintenance regularity
A³ = Monitoring (and feedback)

U = User aspects
U¹ = Comfort take back
U² = User understanding
U³ = Space limitations



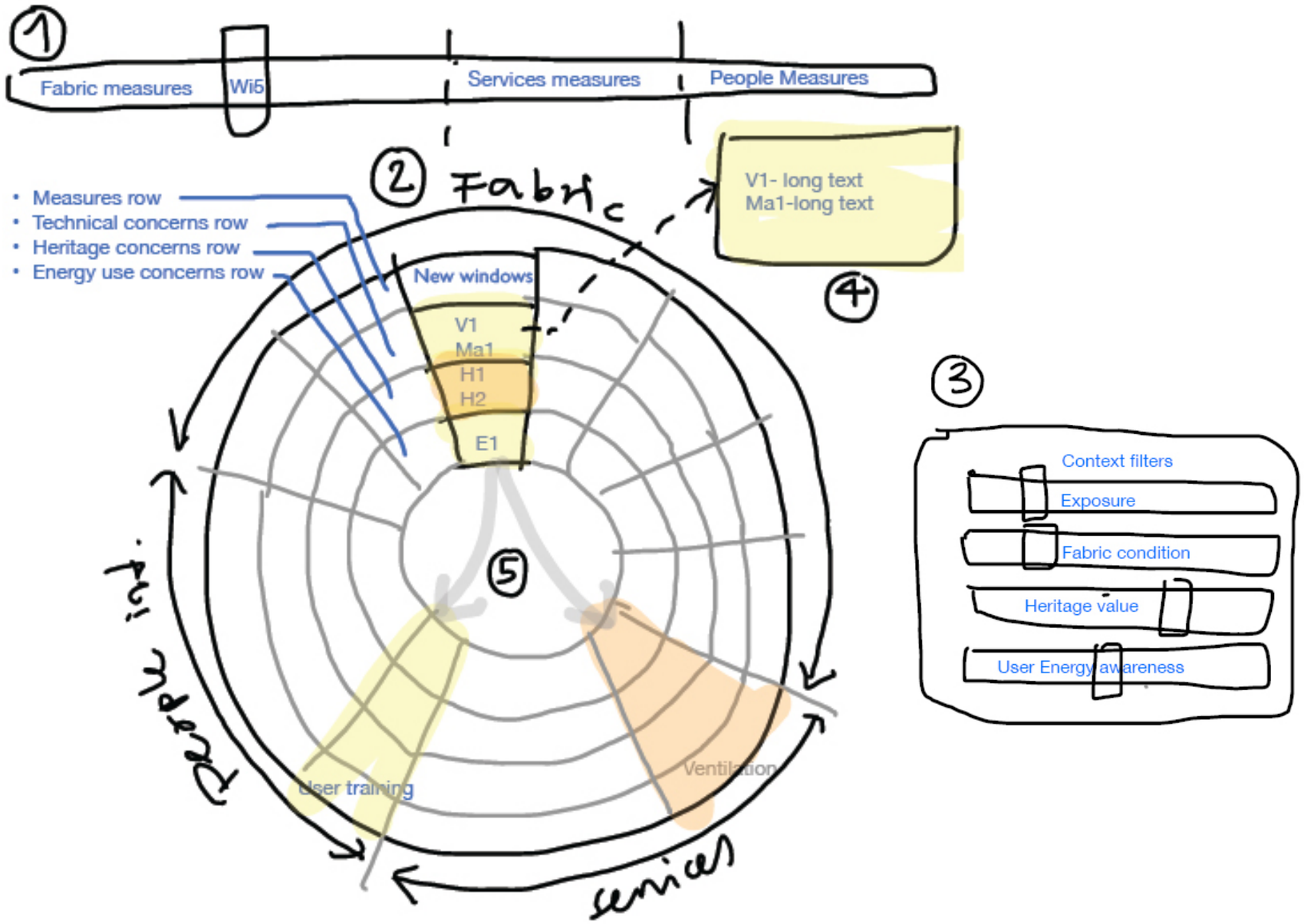
C = Complexity
C¹ = complex installation
C² = complex operation
C³ = complex maintenance

H = Heritage risk
H¹ = Original Internal detail lost
H² = Original External detail lost
H³ = Detail retains character?

P = Permissions needed
P¹ = Listed Building consent
P² = Planning consent within conservation area
P³ = Planning consent outside conservation area

Q = Quality needed
Q¹ = Product quality
Q² = Installation quality
Q³ = Commissioning quality

The idea #3 Digital concept



1. Select measure using slider bar
2. Wheel rotates to show selected measure on top segment. Other measures greyed out (but see 5 below) Technical/Heritage/Energy rows show short text Concerns and risk colour.
3. Context filters allow to adjust for various context options. Row colours adjust for context
4. On click, window with long text appears - could have links and more info?
5. Related measures are highlighted (various degrees of intensity?)

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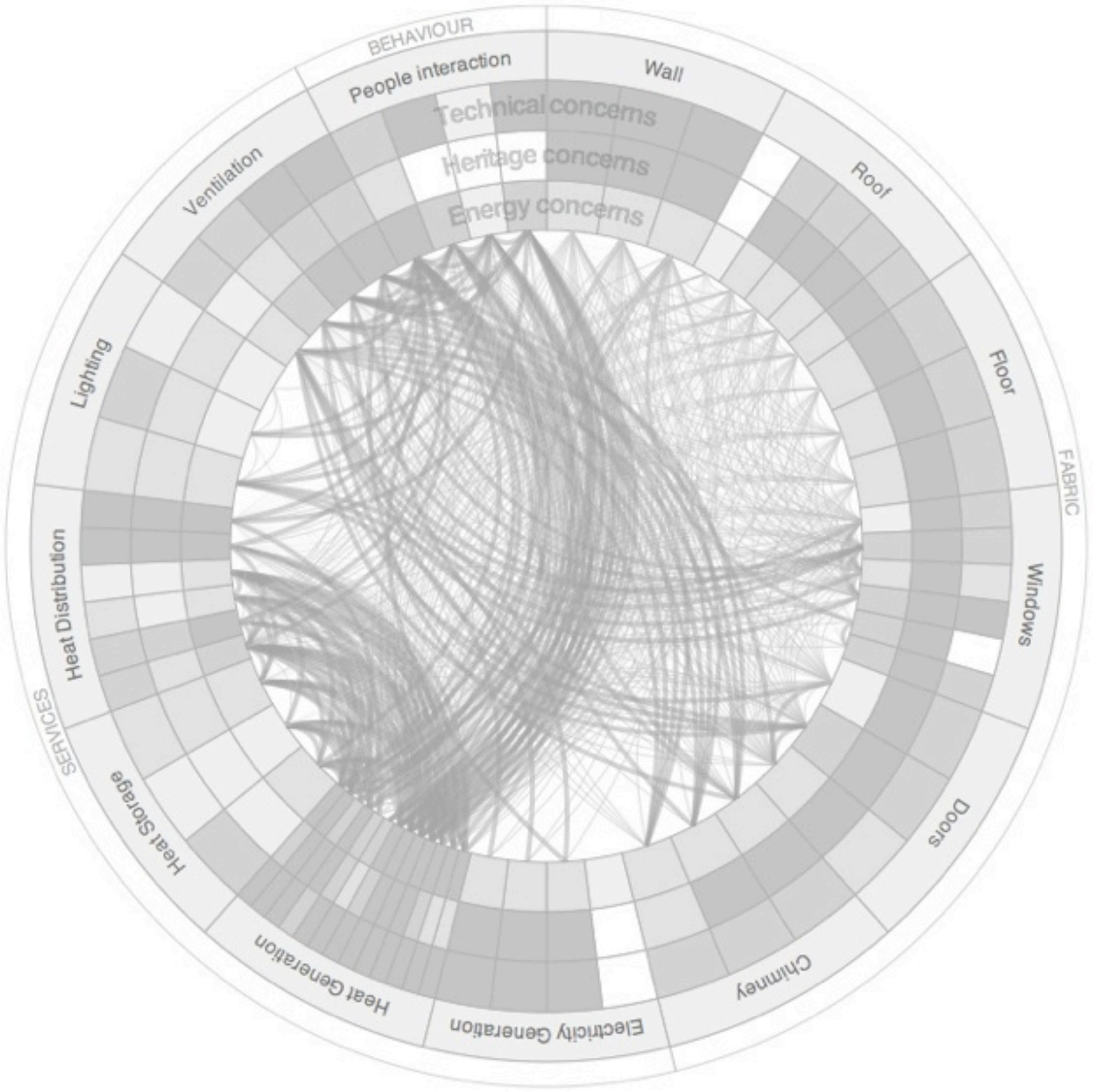
3. *Assessors and evaluators* keeping track of proposals.
4. *Designers or researchers* at more detailed level looking for sources of technical guidance.

Version 1p1 #1 Opening screen



Context

Heritage

Listed – Exceptional

Exposure

Very Severe

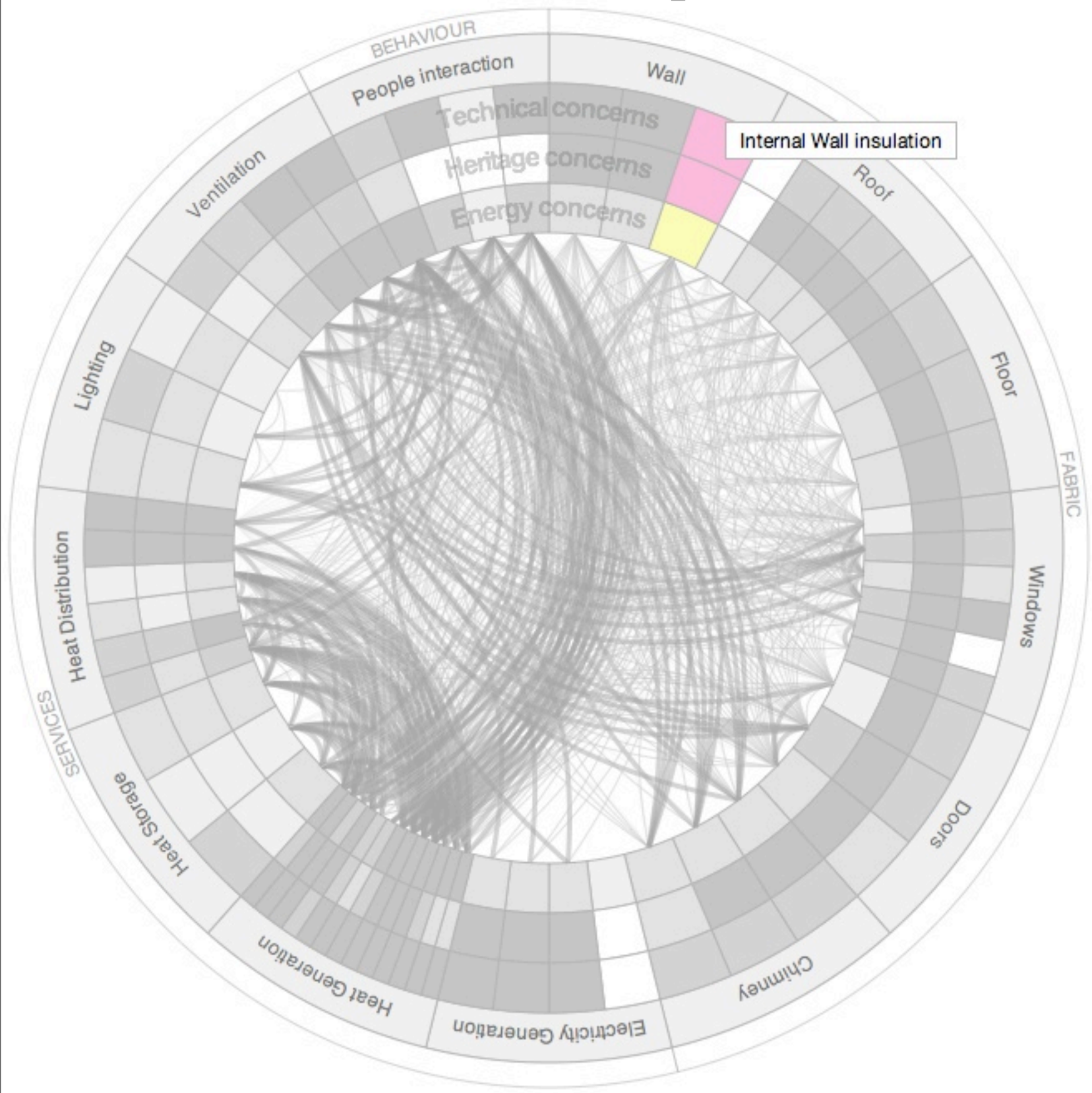
Energy User Type

Frugal user

User interest and involvement In Operation

User with good motivation and

Version 1p1 #3 Measures are segments



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Heritage

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Version 1p1 #4 Interactions

Context

Heritage

Listed – Exceptional

Exposure

Very Severe

Energy User Type

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User interest and involvement In Operation

User with good motivation and

Version 1p1 #5 Context changed

Context

Heritage

Little character

Exposure

Sheltered

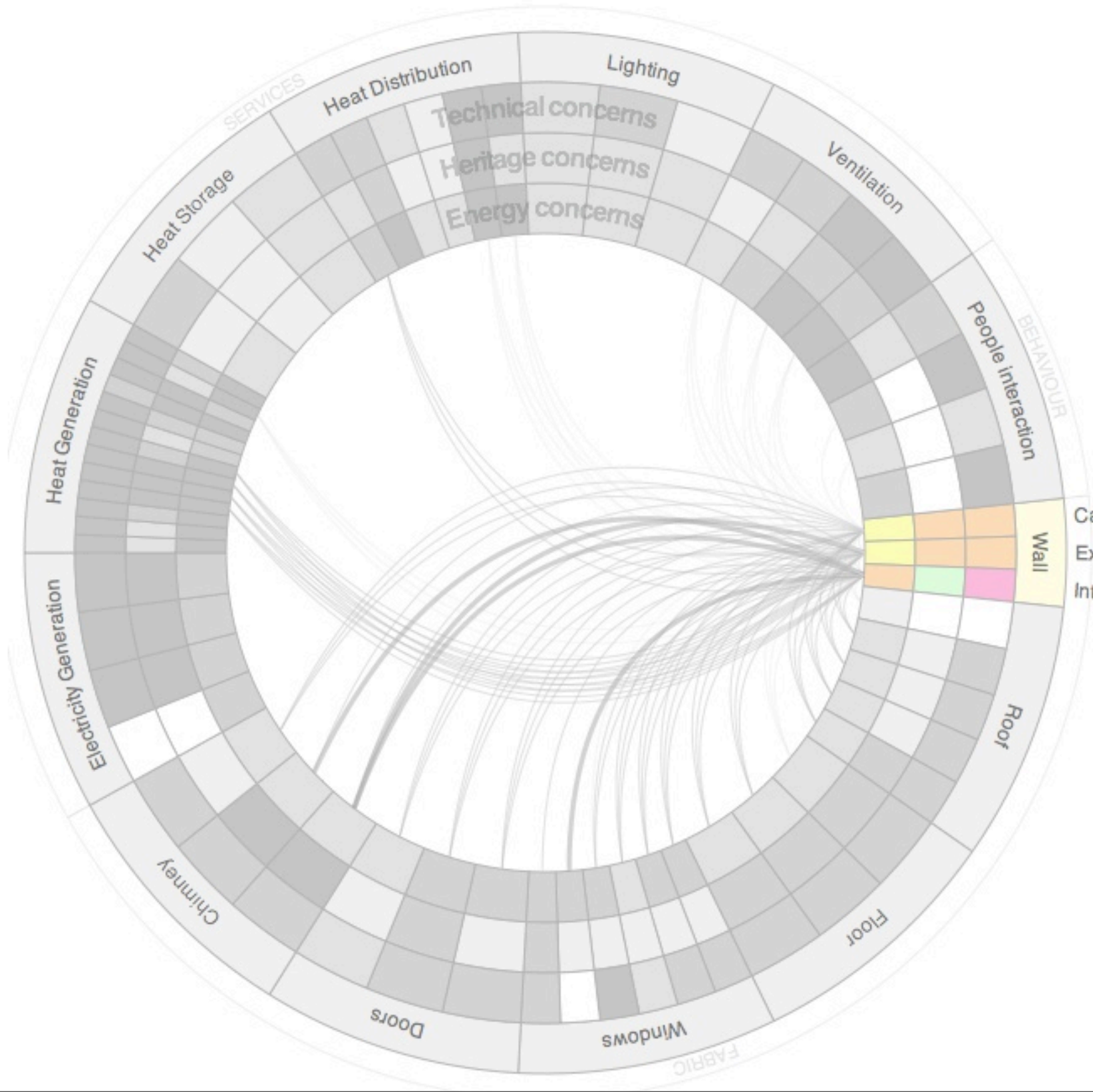
Energy User Type

Unconcerned user

User interest and involvement In Operation

Uninterested User

Version 1p1 #6 More detail on Walls



Context

Heritage: Little character

Exposure: Sheltered

Energy User Type: Unconcerned user

User interest and involvement In Operation: Uninterested User

Cavity Wall Insulation

External Wall insulation

Internal Wall insulation

Version 1p1 #7 More detail on Walls

Context

Heritage

Little character

Exposure

Sheltered

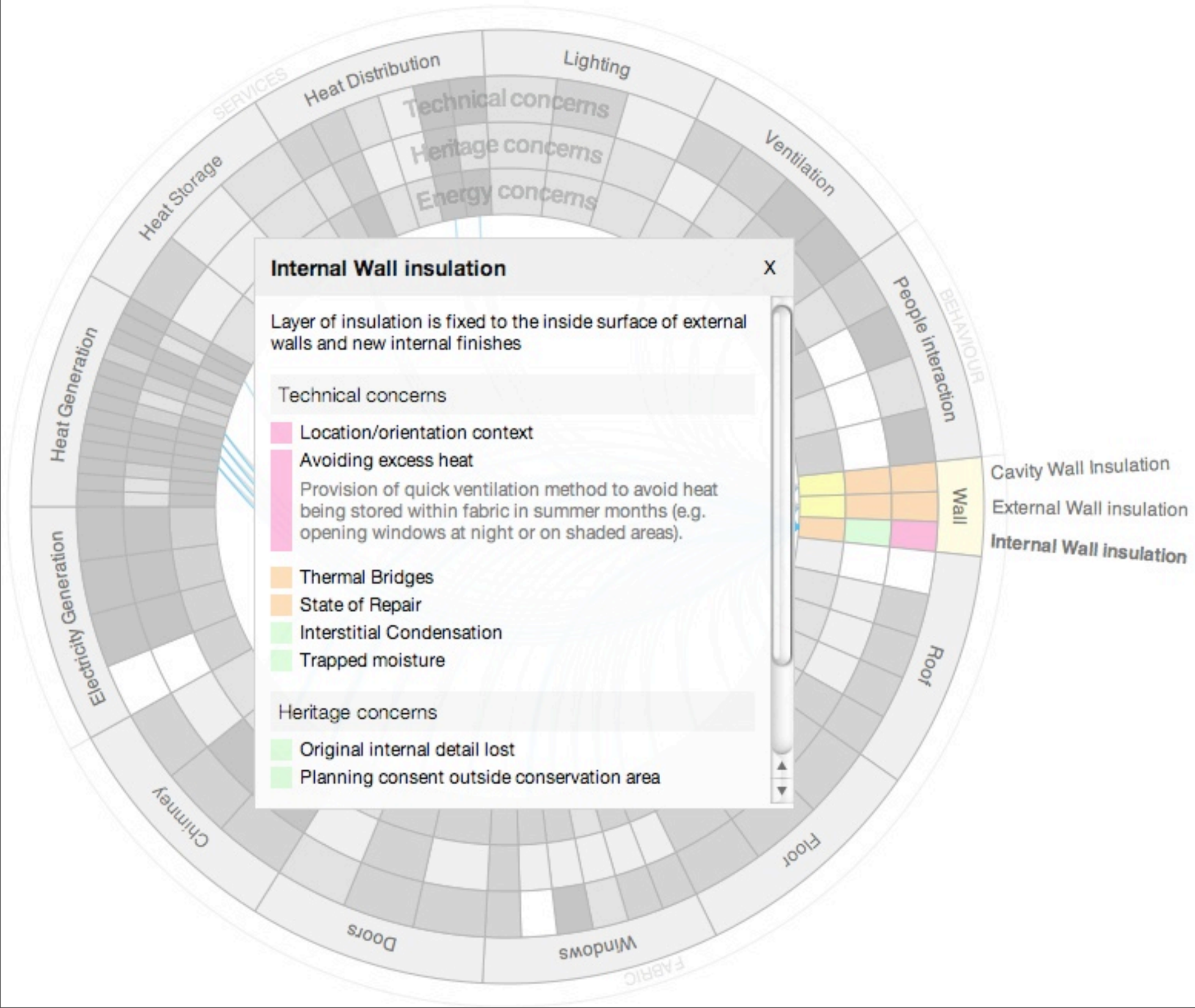
Energy User Type

Unconcerned user

User interest and involvement In Operation

Uninterested User

Version 1p1 #8 More detail on Avoiding excess heat



Context

Heritage

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Exposure

Sheltered

Energy User Type

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User interest and involvement In Operation

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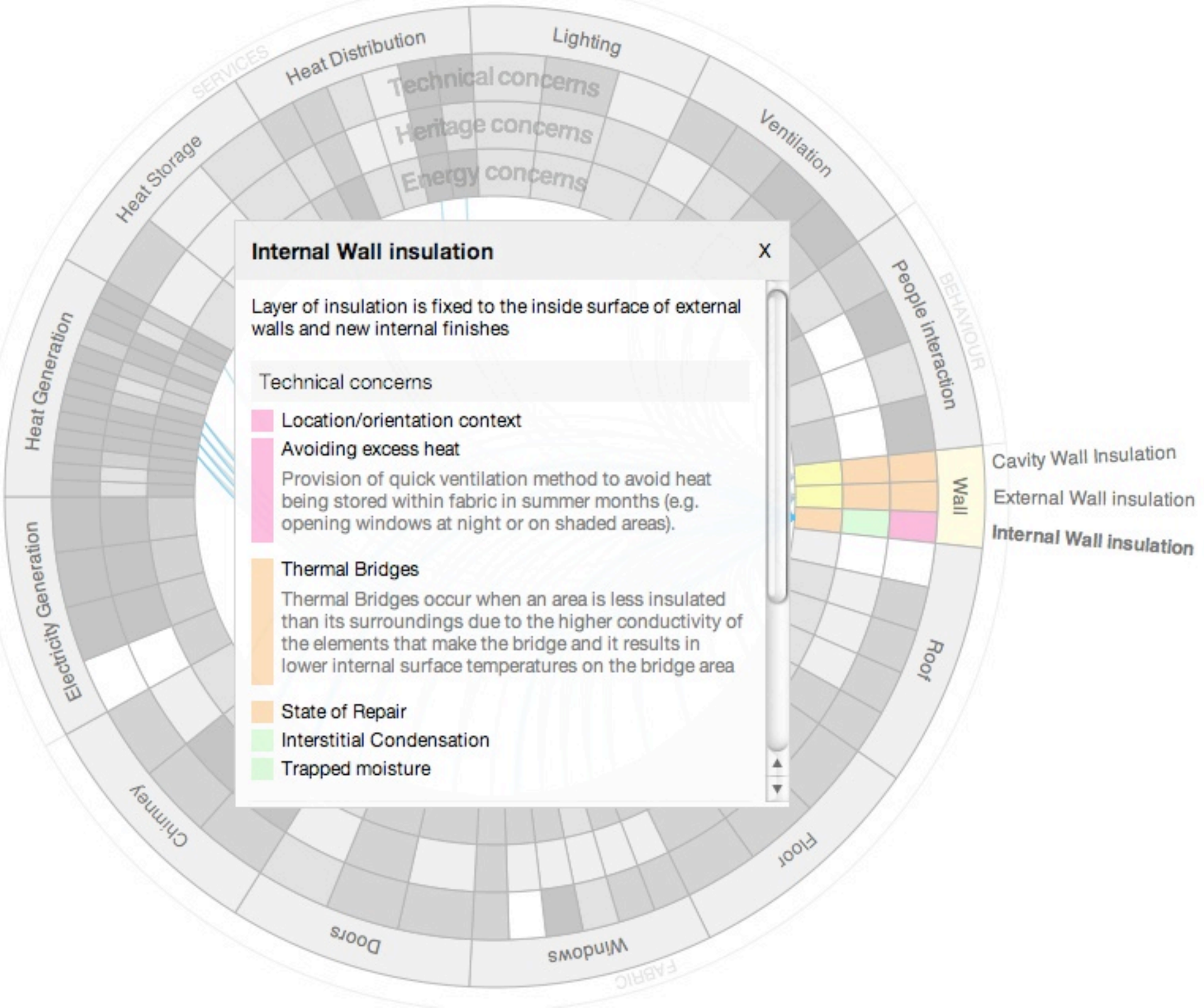
Version 1p1 #8 More detail on

Avoiding excess heat and thermal bridges



Context

Heritage: Little character

Exposure: Sheltered

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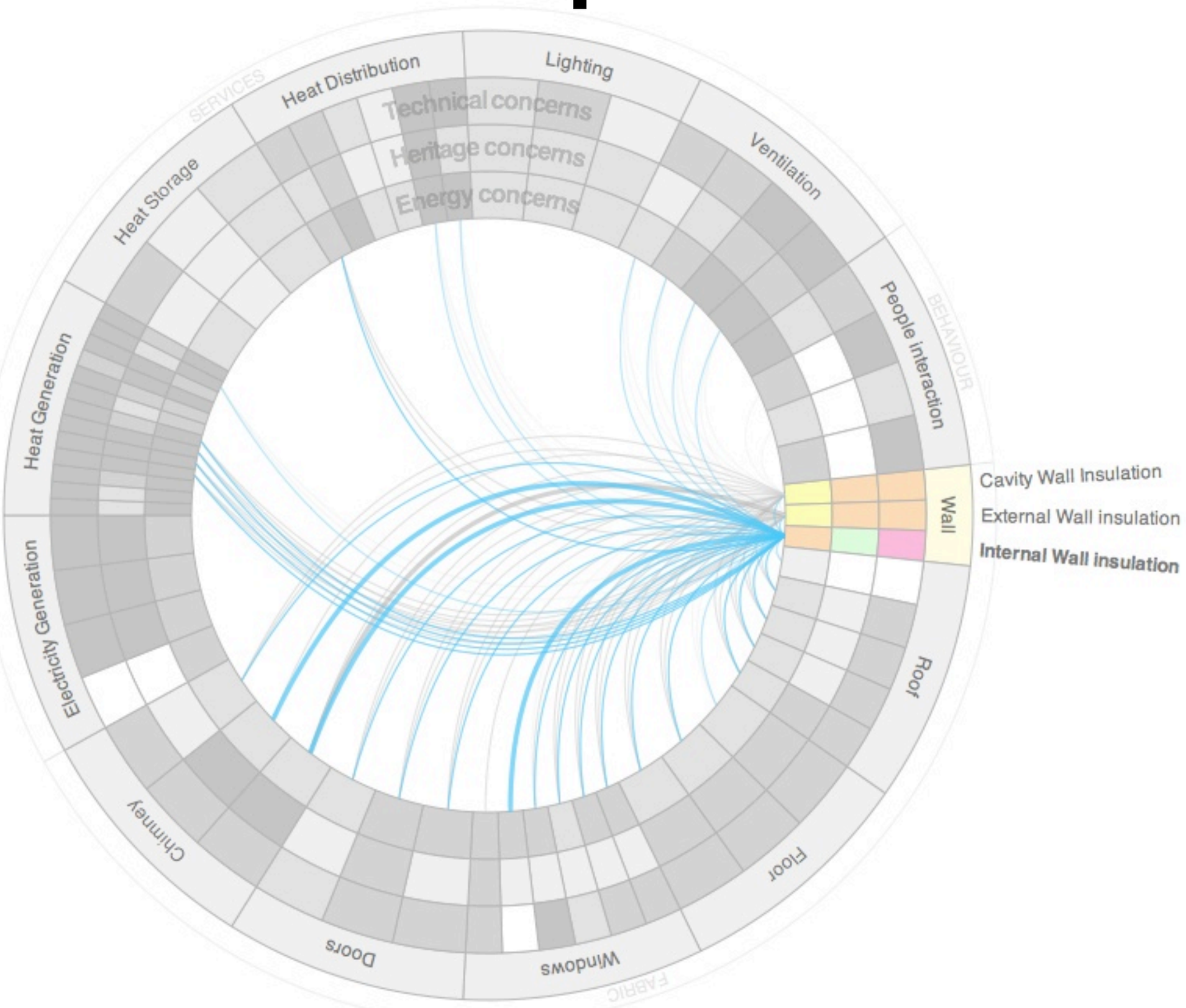
User interest and involvement In Operation: Uninterested User

Version 1p1 #9 Interactions for Walls



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Internal Wall insulation

Version Ipl #10 Possible combinations

3,411,720,000

Version 1p2 #1 Additions under development

Version Ip2 #I Additions under development

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7. *Definitions* of Context terminology available.

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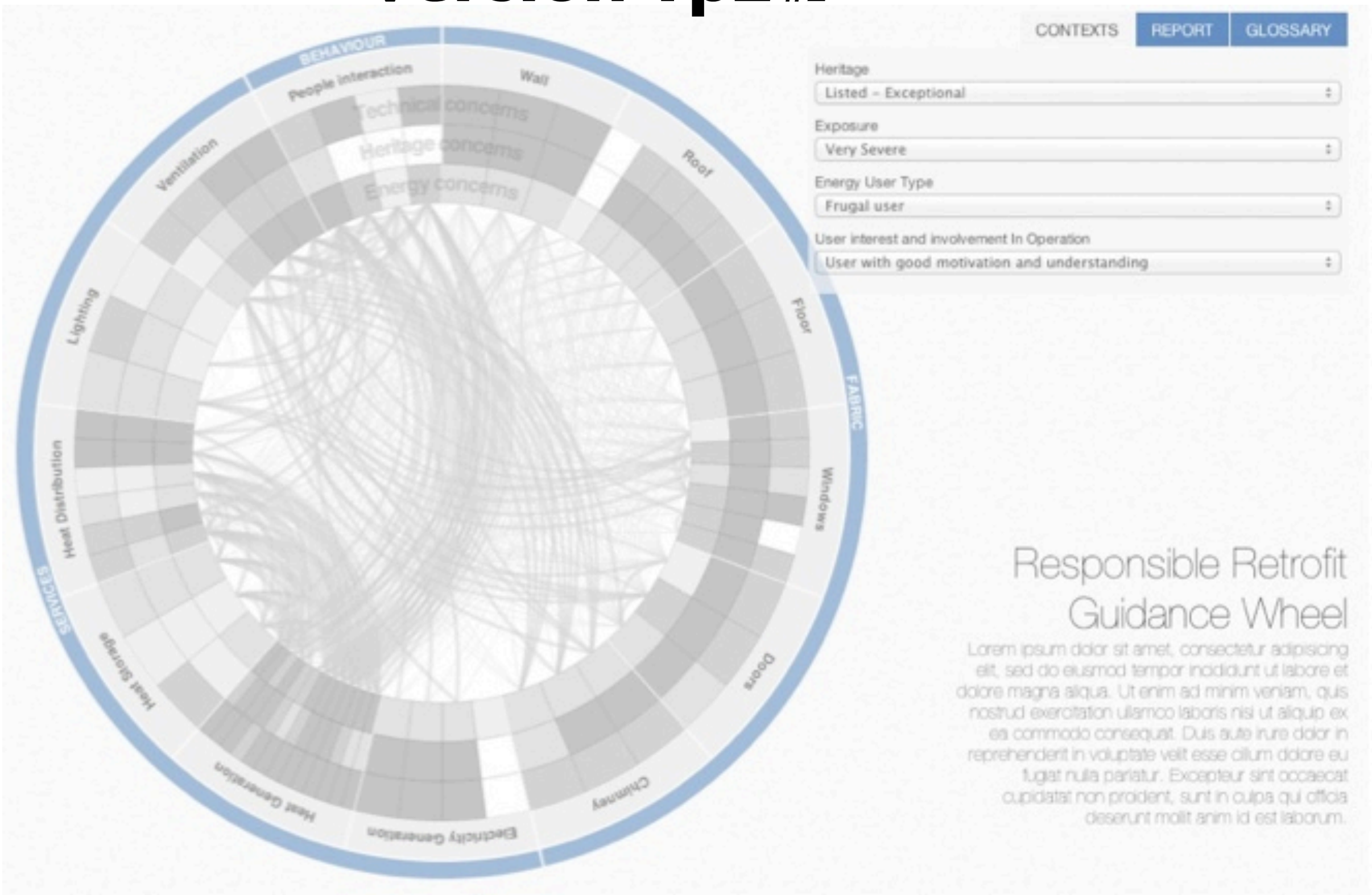
6. *Glossary* of terminology included.
7. *Definitions* of Context terminology available.
8. *Enhanced graphic design* and user interface details.

Version 1p2 #2



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- *Is the graphic user interface and browser performance capable enough for the task?*
- *What are the implications for future software and data maintenance, especially the ongoing cost and skills required?*
- *What potential is there for a more ambitious Knowledge Centre?*
- *Can anyone think of other applications that may work with a schema such as this …?*