Thinking + talking adaptability: diagrams for time and change in the built environment

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Thinking + Talking Adaptability

DIAGRAMS FOR TIME AND CHANGE IN THE BUILT ENVIRONMENT

ROGER SCHMIDT III, SIMON AUSTIN AND JAMES PINDER

The Adaptable Futures (af) group at Loughborough University has sought to improve stakeholders’ capacity to deliver adaptable building designs and the adaptive reuse of our building stock and urban spaces. The research has provided an expanded and refined understanding of how to design for and implement adaptability—responding to what we see as a lack of shared understanding across stakeholders and a need to reconceptualize buildings in context and time. Buildings can no longer be conceived as static and isolated objects, but as shifting social products susceptible to change and demanding of strategies to accommodate the diverse cycles of their constituting parts and stakeholders.

One of our primary deliverables was a series of interrelated communication devices to serve as a foundation for the toolkit—a set of briefing instruments, analytical tools and design resources. The concepts of time and change are at the heart of each device and provide a finer grain when thinking about adaptability, clarifying how different types of change occur over different scales of time and within different layers of a building. The robust set of

INTERGRATING CONTEXT

The integration of time forces the recognition of architecture’s symbiotic relationship with context. Context is more than the physical characteristics of the building site, taking into account a range of physical and social factors that impinge on the design and use of our built environment — shifting influence, role and scale throughout time.

diagrams is theoretically grounded in the literature and has evolved through an iterative and reflexive process of qualitative research methods.

Individually or as a suite they serve to enhance conversations between stakeholders, not only regarding adaptability but also the broader issue of sustainability, helping to ameliorate the lack of clarity often found in design briefs, elucidating needs through improved communication. They have been used in different forms to facilitate individual discussions and larger group workshops as conversational prompts and interactive exercises that visualize architectural and motivational concepts, allowing stakeholders to focus their mind and produce sharp responses.

The visual catalogue forms a rhizome of interconnected concepts allowing multiple and unique pathways to be forged through the issues at hand and for stakeholders to appropriate them for their own end. The set of tools help to untangle the complex web of dependencies that induce, hinder and accommodate change and push stakeholders to think beyond the stereotypes of what constitutes adaptability and how a building may accommodate future change.

FRAMERCYCLE
Adaptability is defined and articulated as a interplay of six motivational goals working in balance with respect to their potential frequency. Each high-level strategy types of change is illustrated with a set of products, systems or tactics (gray text around the periphery) and a more general list of stakeholder benefits (gray text around the inner circle).

ADAPTABILITY LINKS
The table links distinct types of change, building elements and stakeholder roles as a platform for interrogating the why, how and who of adaptability.
Design Process
The sources play-out at different points in the design process. The simple idealized illustration suggests the sequential condition between the seven sources in time.

Adaptability
Adaptability refers to the property of a design system or process to adjust or adapt to new conditions or requirements. In the context of the design process, adaptability is crucial for ensuring that designs remain relevant and effective over time. It involves the ability to modify existing solutions or create new ones to address changing needs or contexts.

Design Process
The design process is a systematic approach to creating or improving a product, service, or system. It typically involves several stages, including problem definition, ideation, prototyping, testing, and implementation. The process is iterative, with feedback and refinement occurring throughout the stages. The ultimate goal of the design process is to create solutions that are innovative, sustainable, and user-centered.

Adaptability Sources
1. Local Application
2. Market Knowledge
3. Technology Trends
4. Environmental Conditions
5. Social Needs
6. Regulatory Requirements
7. Economic Considerations

Each source influences the design process in a unique way, and their interdependencies create a complex web of relationships that must be carefully managed to ensure the success of the design project.
Levels of Investment
A developer/owner’s projected length of involvement is often the basis over which they are willing to plan/invest for future change. How much they invest up front (initial decision point 01) and for operational maintenance (CDP 02) will help determine the point in time and their actions for when the building is no longer suited for their needs (CDP 03).

Future Discounting
Different ownership models will affect a developer’s willingness to pay (WTP) for certain features relative to their timescale horizons. The probability of certain types of changes grows with increasing risks and willingness to pay for solutions to mitigate against downstream costs.

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