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Title - **Branch, Merge, Commit – New forms of Open Source for Designing With BIM**

This paper proposes a new method of *designing with BIM* technology firstly with the application of two contemporary methods of computing – *open source* and *object orientated* - and secondly the adoption of the versioning software platform 'GitHub' as a means of harnessing them and to encourage wider participation in the processes of *designing with BIM*.

Architects are typically consumers of software as products, rather than users of software as technology and the relationship between computers and architecture can often be fractious - viewed with either complete suspicion or total devotion. In either case the role of the computer is often seen in the same way - to supplement a pre-existing design process rather than to fundamentally change it.

However, BIM software represents a significant move from the traditional skeuomorphic paradigm of CAD as drawing board to something new, that is in and of itself. Whilst this offers the designer huge potential, it also presents a difficulty. BIM software requires alternate, and unfamiliar, design processes and work flows – collaborative, concurrent, continuous working for example.

I propose to re-configure two existing methods of computing; *open source* (from software design) and *object- orientated* (from approaches to programming and code).

Briefly, *open source* is traditionally understood as the release of the source code for computer programmes. Typically, however the environment of open software is one where the users and developers are basically the same and in which the 'extended negotiation' between user and programmer becomes a closed loop. This is analogous to existing BIM working practices – closed loops of expert users. In the method proposed here, the loop must be prised open, to allow access and contribution to a wider range of of participants. In programming terms, an object orientated approach is one whereby elements of the code are organised in such a way that they may be more easily understood and edited as well as quickly reused and re-structured – they are assembled components in the same way that BIM can be described as a technology of 'assembled objects'.

By viewing BIM design methods as component assemblies, and then opening access to both the components and the rules of assembly, BIM practitioners have the possibility to create new methods of designing with BIM, through wider participation in the processes associated with it.

Biography

I am a 1st Year PhD candidate at The School of Architecture, University of Sheffield. My research is focused on addressing computing technology as a method within design processes, rather than merely a series of tools. I have explored these issues most recently through the development of specific means of teaching computational design and programming.

In addition, I am an architect at Bryden Wood in London, where I am responsible for the development of BIM strategies for a number of major private and public sector clients. I am currently working with major software companies in developing the Government's BIM standards. Previously, as project director at Slider Studio, a digital media and design research practice, I was involved in the design, development and programming of new software and plug-ins for architectural design, collaboration and participation.

I have collaborated on a number of research projects and published papers internationally. I am a founder member of the design collective openkhana.net.