UNIVERSITY COLLEGE OF ESTATE MANAGEMENT EST 1919

Projects for Good

A sustainable alternative to bespoke construction in the UK

Djordje Veselinovic, Open Plan, Serbia

Summary

This case study outlines efforts to develop the 'Open Plan' project which aims to promote sustainable construction by encouraging construction project owners to 'site adapt' existing building designs for new build projects instead of developing bespoke one-off buildings. This will provide a financial motive for existing building design owners to offer their designs under a license. This also encourages building design professionals to create more open-source designs. Re-thinking our approach to building in this way could make thousands of excellent 'off-the-shelf' designs available to the market, reduce project costs for owners by as much as 15% on account of design fees, cut down project lead times to a fraction compared to current practices, and improve the quality of original designs. The savings could be reinvested in value engineering, green materials and sustainable construction methods. Design owners also benefit from a new source of revenue while retaining control of where replica buildings can be built or whether some building elements should be modified to ensure a different appearance than the original.

The barriers to the adoption of this approach include a lack of a sufficiently large and comprehensive repository of existing building designs for sale or free use on the market. Furthermore, the overvaluing, in the public perception, of the notion of building 'uniqueness' and the underappreciation of how even minor modifications can achieve a different (original) building appearance. In addition, the closed, proprietary nature of designs and their protection by copyright law. Finally, the lack of a well-established open-source architecture movement. The project that is the subject of this case study sought to develop an online platform to bring these parties together through mutually beneficial business relationships that ultimately benefit the construction industry and promote its sustainability.

Context

The UK Government's Construction 2025 report sets ambitious goals for the construction industry to achieve by 2025 which include reductions of 33% in the initial and whole life costs of projects, 50% in turnaround times and 50% in emissions. Considering current construction practices and the rising cost of materials and labour, it is unlikely that these targets will be achieved. Accordingly, the industry must adopt new approaches to construction in order to cut costs, save time and increase efficiency.

Aims

- ➜ Develop a website to connect building design owners, procurers of new build projects and building design professionals
- ➜ Collect, organise and make available to the market a large number of building designs to enable new build projects to save time and money
- ➜ Promote sustainability in the construction industry by enabling cheaper, faster and higher quality building projects
- ➜ Encourage and motivate owners of new build projects to adopt sustainable construction methods and materials

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The Project

The present case study provides an update of efforts to develop and launch the 'Open Plan' building design website. Due to the complexity and scale of the project relative to the allocated time, a decision was made to focus on validating the rationale and business case for the idea as well as on developing the user interface, user experience and graphic design elements of the website in preparation for the compiling of software requirement specifications and the hiring of a developer to build the website.

Further research during the course of the project implementation confirmed the significance of potential time and cost savings to be derived from site-adapting projects, which provided support for the website's business case. The user interface, experience and graphic design aspects of the main sections of the site were modelled in Inkscape. Particular attention was paid to the landing page, the available building designs page with search options and the details page for individual designs.

Further development stages will focus on the legal issues associated with running a building designs website, the liability issues associated with site-adapting existing designs, ways of previewing existing designs before a purchase is made and sourcing of funds for initial development and operation of the website.

Personal Impact

My studies at UCEM have enabled me to understand the complexities involved in the construction of buildings and the paramount importance of approaching construction in a sustainable way. This understanding has made me aware of the inefficiencies and wastefulness inherent in the industry and it has inspired me to propose and develop a realistic, practical and economically sound solution which I truly believe could have significant positive impact if implemented successfully and embraced by the industry.

Results

The outcomes of the present project were the validation of the business case for the website and the development of wireframes outlining the main features of the website, the user experience and interface elements and the preliminary graphic design.