The Palace Theatre Nightclub

REVIT DELIVERS POWERFUL ARCHITECTURAL CAD TECHNOLOGY TO YORKSHIRE ENGINEERING CONSULTANTS

ABOUT THE CUSTOMER

James Lupton Consultants (JLC) is a design consultancy based in West Yorkshire and is part of the Atom Group. JLC is involved in a wide range of building and civil engineering projects acting as design consultants, co-ordinators and project managers.

Location: West Yorkshire, United Kingdom

Summary

Time constraints are a critical factor in any project. Revit equipped JLC with an instantaneous solution that could quickly test the proposed alterations to the existing building structure. By allowing access to a wealth of additional features that would traditionally have only been available through advanced programming, Revit helped save time and money for JLC and the client.

"The decision to use Revit on the project was esstially driven by Revit's ease of use and speed of delivery. "We needed to be able to present potential construction and design problems with the project, to the rest of the project team, as quickly as possible to highlight the need for appropriate modifications to be made," commented James Lupton, managing director, JLC.

He continued, "This project has reflected positively on the Atom group as a whole because our client has increased confidence in our ability as a group to identify key challenges presented by the project and to deliver an effective solution without compromising the budget."

Application area

Revit is enabling JLC to check the feasibility of proposed building plans and relay the concept design proposals and findings to the client.

Revit benefits

By displaying the findings to the client within 2 days of the site survey, costly errors are prevented during construction.

The ability to clearly visualise potential problems in a parametric building model allowed instant decisions to be made on the project's economic viability.

Interlinking between the Revit model and drawings reduced the time taken to incorporate on-site information into an easily digestible format.
Revit's ability to provide concurrency alleviated the time consuming process of updating all project documentation to reflect changes.

Background

Originally used as a theatre then a cinema and more recently as a nightclub, the Palace Theatre in Aberdeen has seen many changes over the years. The current owners Luminar Leisure Plc are keen to bring the nightclub up to date and a massive refurbishment is planned for 2002, involving significant internal alterations. To help with the project, Luminar Leisure contacted Atom Group partner, Philip Thomson & Partners who brought the project to the group. They in turn involved JLC as the group specialists in 3D modelling.

The Challenge

From the outset the project objective was to keep the existing perimeter walls but remove all the current floors whilst introducing new floors. Faced with these major alterations to the current structure, it was soon apparent that the existing, main structural supports may not provide the stability needed. To try and implement these changes, especially within the tight project time-scales, meant JLC was faced with the challenge of identifying and overcoming any potential problems as quickly as possible.

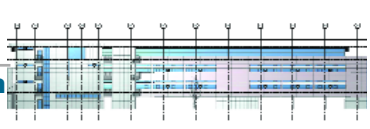
Solution

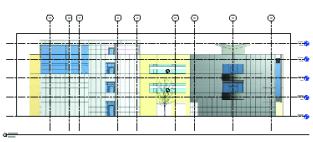
JLC required a system with the ability to create a skeletal model of the existing framework and more importantly, seamlessly add in any intended changes and identify any possible issues. This process allows alternative plans to be tried and tested, to find the most effective way to implement the initial plans, without affecting building stability.

At the time, JLC utilised software packages that could develop features to help fulfil these requirements, but would have needed C++ programming to obtain the output required. However, timing of the project was crucial and could not accommodate such a time consuming exercise. JLC needed immediate access to software that could bypass the additional time and programming skills required.

To help overcome these issues JLC turned to Revit Technology and its parametric building modeller software. Revit enabled JLC to develop a model of the existing structure and visualise the proposed modifications.

REVIT™ CUSTOMER HIGHLIGHT





How Revit assisted JLC

Using Revit's parametric capabilities allowed JLC to simply add in structural components to the existing model of the building and visualise it in a 3D view. With a site survey being undertaken on site, the spontaneity of Revit allowed information to be incorporated into the model immediately. This gave JLC the opportunity to quickly relay any potential problems and enabled its design team to recommend feasible alternatives. Traditional use of plan views, especially with complex building structures, often mean it is not always possible to identify issues until work is well under way.

James Lupton, managing director of JLC commented,

"If we had used traditional methods, some of the problems we encountered may not have been identified prior to the appointment of a contractor - at which point the client would have been committed to the increased costs to resolve these points."

Knowing in advance that the existing budget may not cover the expected costs allowed the client a choice whether or not to progress.

Revit also helped JLC meet the tight deadlines by using its ability to provide concurrency on all project documentation - reflecting up to date information in different views and schedules generated within the model. Ensuring all project documents are concurrent is a time consuming process in traditional 2D CAD, especially when sections or details may be moved from sheet to sheet, rendering the original section mark or call off out of date. In contrast, Revit construction documents are separate views of a single definitive information source, so all cross-referencing takes place automatically. This advantage enabled JLC to concentrate on the issues that needed to be resolved, rather than the administrative tasks of handling change control on project documentation.

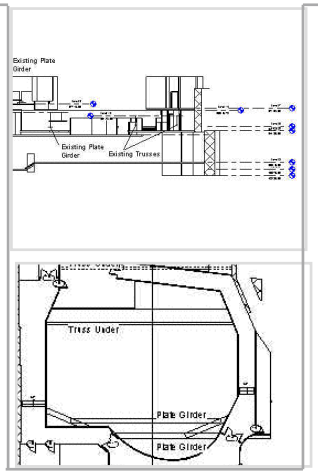
Revit Release 4.0

Revit 4.0, the latest release from Revit, offers further benefits to JLC. One such benefit is the export to ODBC feature. ODBC is an open data exchange format allowing Revit to link to any database or spreadsheet that is ODBC compliant. It allows manipulation of project information into reports external to the main software package. Bills of material quantities or room area schedules can now interact with externally stored information to develop budgets, costs or renewable income summaries.

The future relationship between Revit and JLC

JLC, impressed with the capabilities of Revit on the Luminar project, has recognised the business benefits associated with using Revit on a long-term basis. According to James Lupton, "We use a number of software packages as part of the service we deliver to our clients and have found that Revit is easy to understand and implement into a production environment." JLC now has a well-developed team, consistently using Revit to help maximise its clients understanding of projects in the early stages.

In the long term, JLC will be extending its use of Revit throughout the entire lifecycle of projects. JLC also anticipate Revit being used throughout all Atom Group projects in the near future bringing direct benefits to its client through all of its regional offices. With Revit's ability to provide complete project management, the Atom Group will also look for involvement from Revit after the construction work has been completed. Using Revit, the building's lifecycle can be managed in a virtual capacity. Any future remodelling can be tested on the Revit building model - reducing uncertainty in the final outcome and allowing the client to visualise any planned internal or external alterations.



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