

APPENDIX 11

**DRAFT OF THE PROFESSIONAL NOTE
ON
“INTEGRATED PRACTICE”
UIA Professional Practice Commission
for
Meeting in Seoul, Korea**

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Integrated Practice

UIA recognizes and promotes possibility to improve quality and productivity of design by means of the innovation of the way to collaborate and communicate among all stakeholders of a project during lifecycle of built environment through new dimension of information/data processing. UIA also recognizes and promotes the importance of alliance of developments in all sectors, including design professions, engineering professions, construction industries, manufacturing industries, building operation professions, financial industries as well as hardware and software of information technology industries.

Definition

“Integrated Practice leverages early contribution of knowledge through utilization of new technologies, allowing architects to better realize their highest potentials as designers and collaborators while expanding the value they provide throughout the project lifecycle.” (AIA)

“Integrated Project Delivery (Integrated Practice) is a project delivery approach that integrates people, systems, business structures and practices into a process that collaboratively harnesses the talents and insights of all participants to reduce waste and optimize efficiency through all phases of design, fabrication and construction.

Integrated Project Delivery (Integrated Practice) principles can be applied to a variety of contractual arrangements and Integrated Project Delivery (Integrated Practice) teams will usually include members well beyond the basic triad of owner, architect, and contractor. At a minimum, though, an Integrated Project includes tight collaboration between the owner, the architect, and the general contractor ultimately responsible for construction of the project, from early design through project handover.

Integrated Project Delivery (Integrated Practice) uses business structures, practices, and processes to collaboratively use the talents and insights of all participants in the design, construction and fabrication process. Beginning when the project is first conceptualized, the integrated process continues throughout the full life cycle of the facilities.” (AIACC)

Background

In most jurisdictions Architects have been providing professional service through drawings and specification as communication tool for clients and contractors. Design is initiated from establishment of project requirements and finalized by Contract documents. Then these documents are translated to construction drawings and shop drawings to implement construction. During the building design (delivery) process, many stakeholders are involved in different stages such as pre-design, basic design, detailed design, production of construction contract document, bid & award, construction and hand-over. Drawings and Specifications are bases of communication. They are used for coordination of architect design with structural, mechanical, electrical engineering. They are used for construction cost estimate; permit processing, construction and facility management. Traditionally, architect design drawings and specifications (documents) are translated in different set of drawings and specifications for different professions. The documents are translated into the presentation package for client approval. The documents are translated and renewed for each stage of design process. These translations of the documents not only cause repetitive work during the process but also cause knowledge loss from stage to stage.

High quality of built environment and improvement of efficiency in building delivery are in high demand in public at large. The clients are demanding quality building in shorter period of time by improving efficiency in construction industry. Quality, cost and schedule of the project are all to be optimized without compromising each other. Better design with lower cost and faster implementation. It is becoming crucial to make decisions at earlier stage of the project that affects the quality, cost and schedule.

Traditional delivery practice has been divided into too many stakeholders of these issues, and traditional contractual system handles these stakeholders as conflicting interest parties. These traditions have made various barriers for smooth communication and knowledge sharing required for overall efficiency of projects.

Sustainable built environment becomes major issue for our profession. Analytical works are requested by projects more and more. Environment impact analysis including heat gains and losses, energy control, internal air quality, and others are getting more detailed and are requesting more accurate assumptions and analysis. The results of these analyses are becoming to have more direct impact on the

design itself. Therefore, design work needs to integrate these simulation and analysis at early stage of design.

Computer simulation technology is now being fully utilized in other industries. Simulation and analysis by using advanced computer technology have become standard procedure to maximize the quality of products. In construction industry too, building information modeling tools have been improved dramatically in past decades. Data conversions among software have been improved through alliance promoted by the International Alliance for Interoperability. These advanced information technology with international alliance has ability to integrate accumulated data in one coordinated file, which can contain many levels of data (drawing, specification, cost, engineering simulation, and schedule) about a project, so that unnecessary repetitive work and knowledge loss during the translation of different stages can be avoided. Clients, contractors, engineers and other stakeholders associated with the project can work on the coordinated virtual model of the project to communicate with each other, which improve the productivity of the design process and building delivery process.

By fully utilizing this modern information technology, a new project delivery system is emerging. This delivery system is not just usage of computer technology, but it is a new network system of all the stakeholders of a construction project. This new delivery system called integrated practice is envisaged to optimize the whole construction industry efficiency.

Architects have been educated and trained to coordinate the best balance between the society, environment and project requirements. Architects have the best qualification, education, knowledge and skill, to become the leading person in this new project delivery system.

Issues

Integrated Practice consists two basic foundations, one is data base such as drawing, specification, and schedule, the other is process such as creation, communication, optimization, simulation, collusion identification and checking. Based on these foundations, corroboration and communication are the essence for realization of Integrated Practice. UIA recognizes that there are many issues to promote sound development of Integrated Practice.

Project Team Formation

- Project Organization (Project Facilitator)
- Participants (Owner, Architects, Engineer, Contractor)
- Collaboration

Project Team Structure Business Model

- Conflict of Interest restructuring (Open Book, Reimbursement, pre-set profit, penalty, bonus)
- Risk management (Release of Liability)
- Compensation
- Insurance
- Copy Right

Contractual Issues (Agreements)

- Alignment of risk and reward to optimize project success over individual entity success
- Alignment of risk and reward with a party's ability to control risk
- Creating a culture of partnership among stakeholders
- Creating an open information environment
- Integrating operating, design and construction knowledge

Procurement Model (Building Delivery Method)

- Design - Bid - Build
- Turn - Key
- Design/Build
- CM Method

Integration of Building Life-Cycle

- Planning
- Design
- Construction
- Operation
- Maintenance

Standard (International Alliance for Interoperability)

- BIM Scope
- Coverage of Version
- Reference Standards
- Business Processes
- Business Rules

Data Structures and Models

Electronic Document Issues

Security/Trackability

Accuracy/Usability

Liability/Implied Warranties

Loss of back checking/Coordination

Compensation/Ownership

Education

Professional Education

Training

Examination

Registration

The list above is merely an identification of major issues to be developed further. Along with the development of these issues, modification, addition and/or deletion are expected. UIA recognizes the importance of alliance of developments in all sectors, including design professions, engineering professions, construction industries, manufacturing industries, building operation professions, financial industries as well as hardware and software of information technology industries.

End of Draft

Reference:

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