
# EXPERIENCE SHARING ON AIAB VIRTUAL PROJECT (STUDENT GROUP)

## AIAB BIM CONFERENCE 2011

**29 SEPTEMBER 2011**

**VERSAILLES BALLROOM, REGAL KOWLOON HOTEL, HONG KONG**

**STUDENT GROUP MEMBERS**

WONG CHING HAN (PRESENTER)

CHAN WING TAI, CHOW KA LOK, CHU KA KI

HO KIN MING, CHUN WING CHUNG,

LAI PAK KAN, LAM WING YI

AIAB Autodesk Industry Advisory Board

Summit Technology (HK) Ltd.

IVE

# Presentation Outline

1. AIAB virtual project background
2. Job duties
3. Sharing
   - what problems we found in the project
   - how to overcome these problems
   - what we learnt in the summer attachment scheme
4. Video sharing

# Project Background

- **IVE Summer Attachment Scheme 2011**
  - Encouraging us to gain relevant industrial working experience
  - Helping us to gain a better understanding to future working environment
  - Applying what we have learnt in the school
- The virtual project is divided into 2 working teams
  - Professional team
  - Student team
- **Organizations**
  - Institute of Vocational Education (IVE)
  - Summit Technology (Hong Kong) Ltd.
  - Autodesk Industry Advisory Board (AIAB)

IVE

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AIAB
Autodesk Industry Advisory Board

# Student Project Team

# Student Project Team

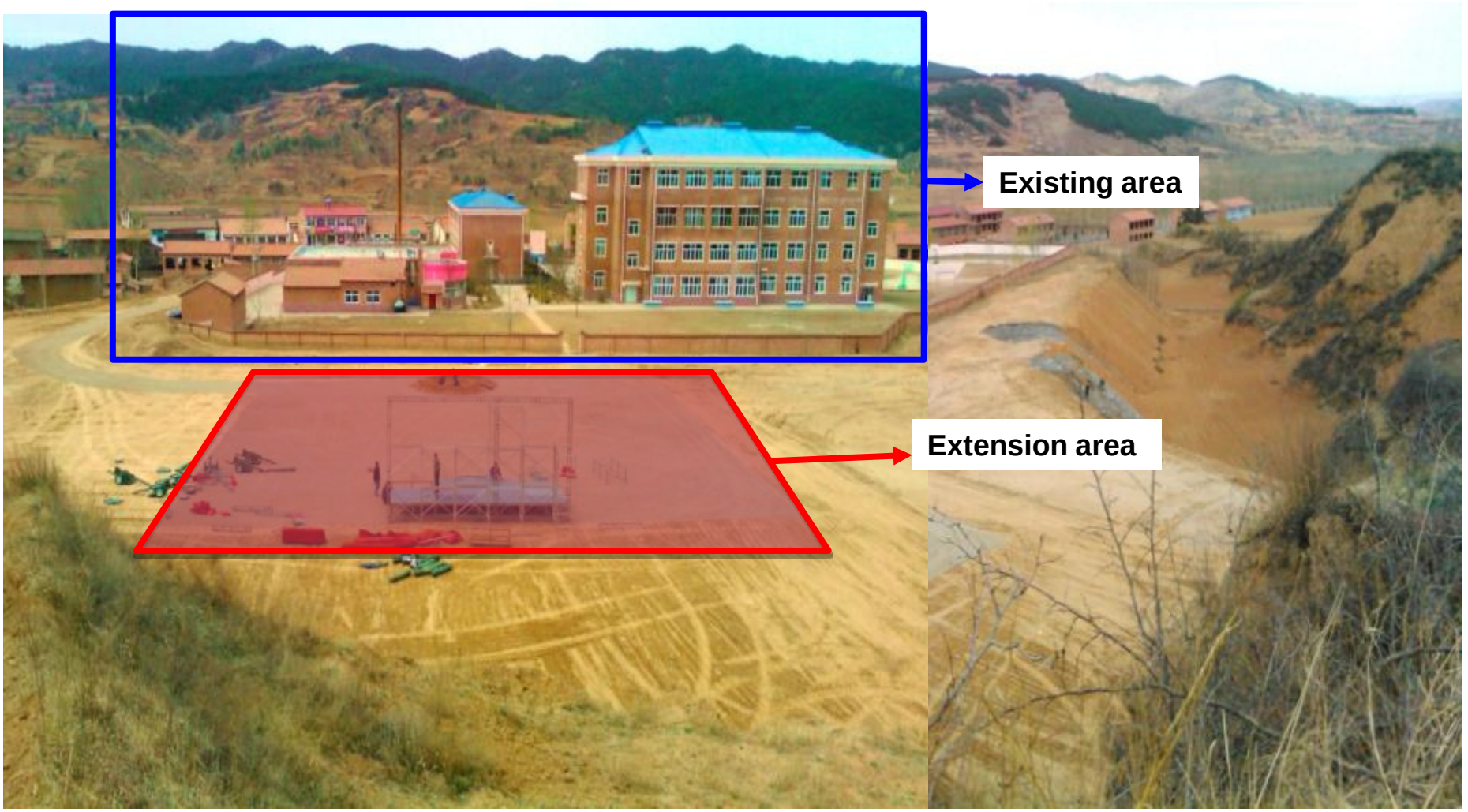
- **Summer Attachment Period**
  - 1.5 months (started from 22/07/2011 to  31/08/2011)
- **The team is formed by:**
  - Eight members
  - Year 3 students in the Higher Diploma of Architectural Design and Technology
  - Department of Construction, Institute of Vocational Education (Tuen Mun)
- **Relevant background knowledge**
  - Computer Aided Architectural Detailing
  - Building services
  - Building materials
  - Basic building structural design

# Bo Ai School (博愛學校 ) Extension

- Charity project sponsored by Bo Ai Foundation Limited organization
- Location: Taiyuan, Shanxi, China

# Bo Ai School (博愛學校 ) Extension

- Site photo showing part of existing primary school and extension area for secondary school
- Project duration: approximate 1 year



# Site Layout Plan


**Legend**

- Existing Primary School Area
- Extension Area

Total Site Coverage Area: 9000 $m^2$

Construction Site Area: 1473 $m^2$

# Key Tasks

1 **Identify** any **possibilities** in **cutting down** the project cost under BIM project approach

2 **Find out** what **possible problems** in the actual situation in the BIM project

3 **Develop** architectural, structural and building services **BIM models** by different BIM tools such as Revit Arch., Structure & MEP

4 **Render** some images for each BIM models to deliver a realistic view.

5 Summarize the project construction sequences and produce **visualisation walkthrough** project animation by 3ds Max

6 **Present** the project information and **share** experience and achievements in the summer attachment

# Project Working Sequence

**Project Briefing**

- Study project background
- Set the working plan
- Determine time for each task time frame
- Division of work

**Learning BIM Tools & Studying Project Drawings**

- Learn BIM tools (e.g. Revit Architecture; MEP; Structure; 3ds Max
- Find out all important information for BIM models information

**Building BIM Models**

Translate 2D drawing information to form BIM models

Clarify the function of drawing symbols stated on the drawings

Classifying different architectural features, structural members, MEP systems

Clash checking

**Rendering**

- Determine finishing materials
- Lighting set up
- Material set up

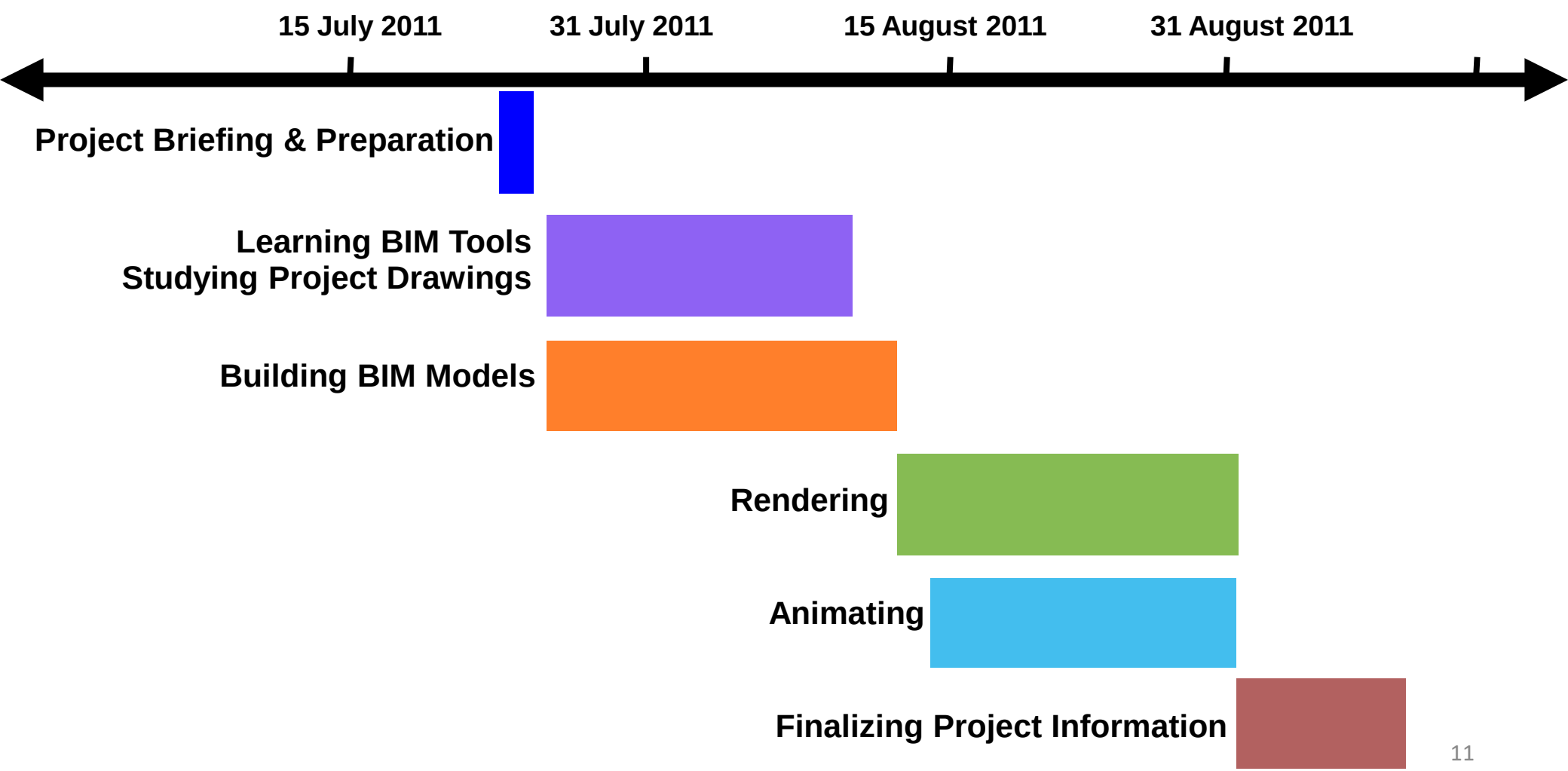
**Animating**

- Brainstorming the path
- Outline the scenes for each shot of walkthrough
- Summarizing the key steps for describing overall construction procedures

**Finalizing Project Information**

- Group meeting
- Checking the accuracy
- Finalize the documentation

# Project Timeframe

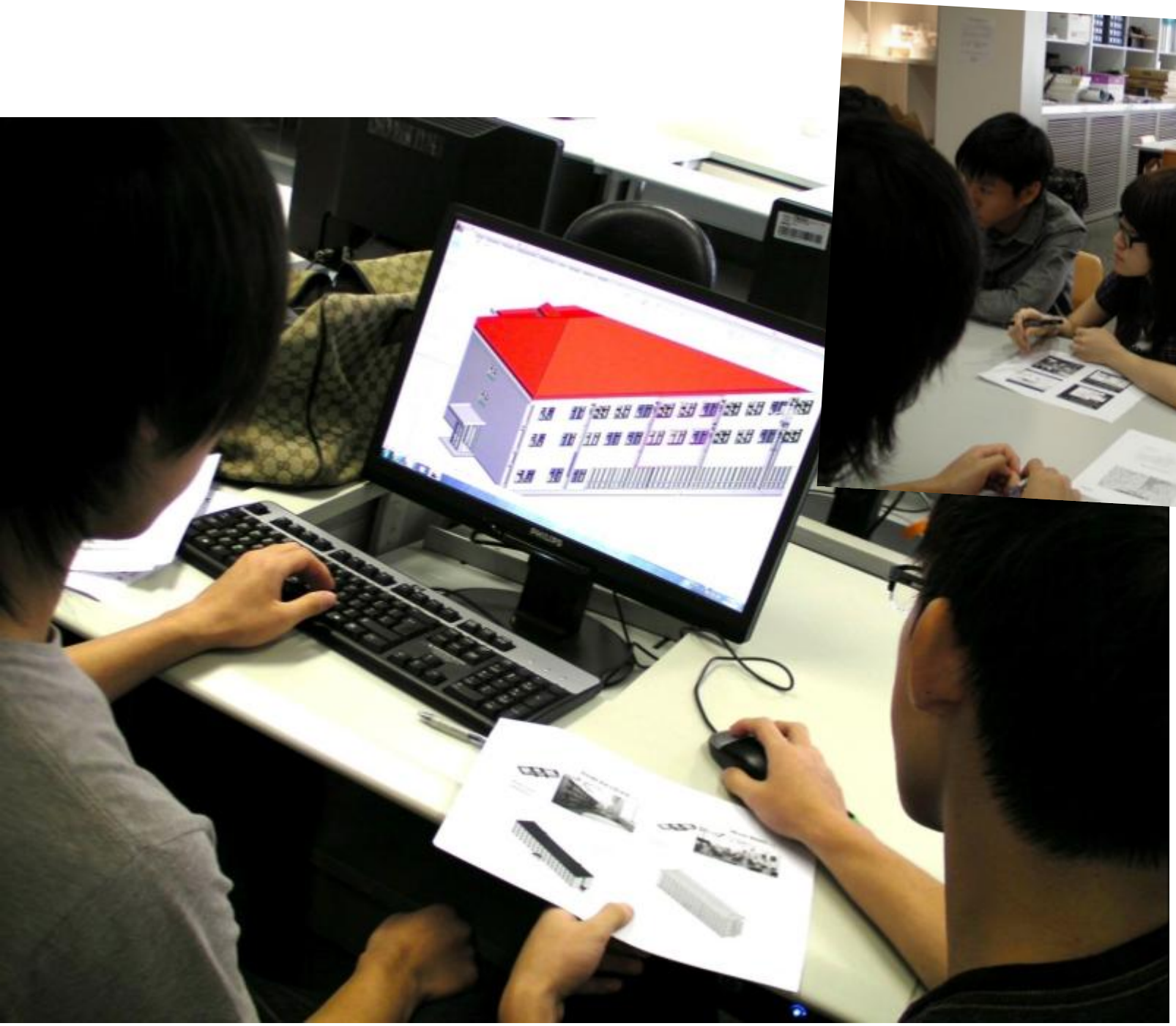


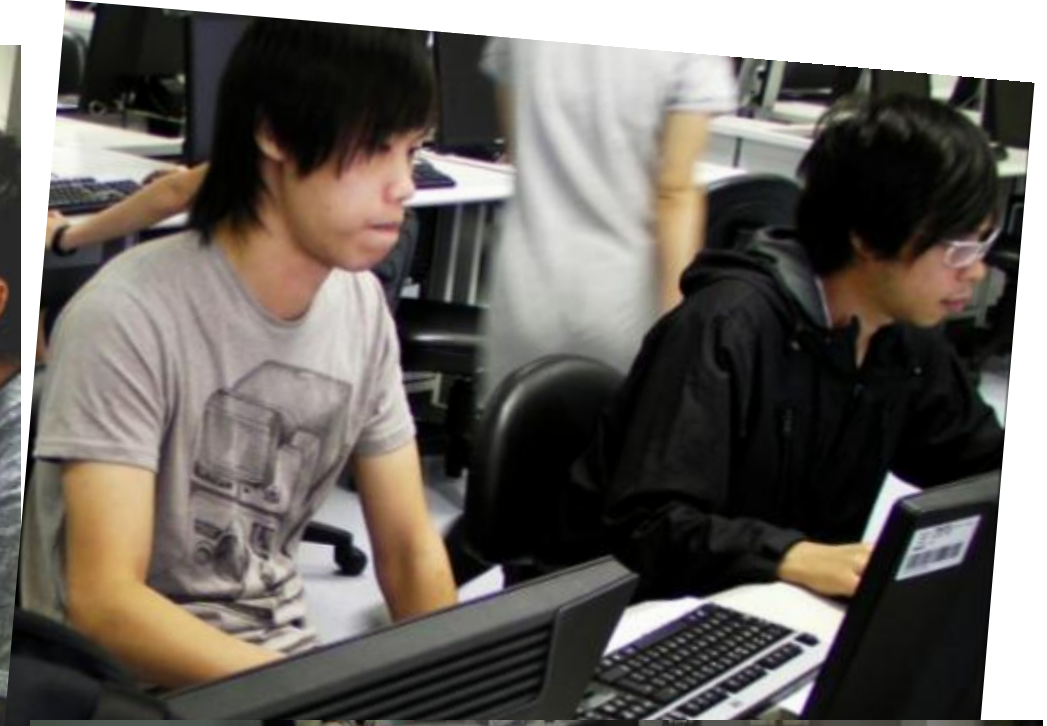
## First meeting

Director of Summit (Hong Kong) Ltd.; Professional project team members; AIAB chairman and committees

## Working at IVE computer studio

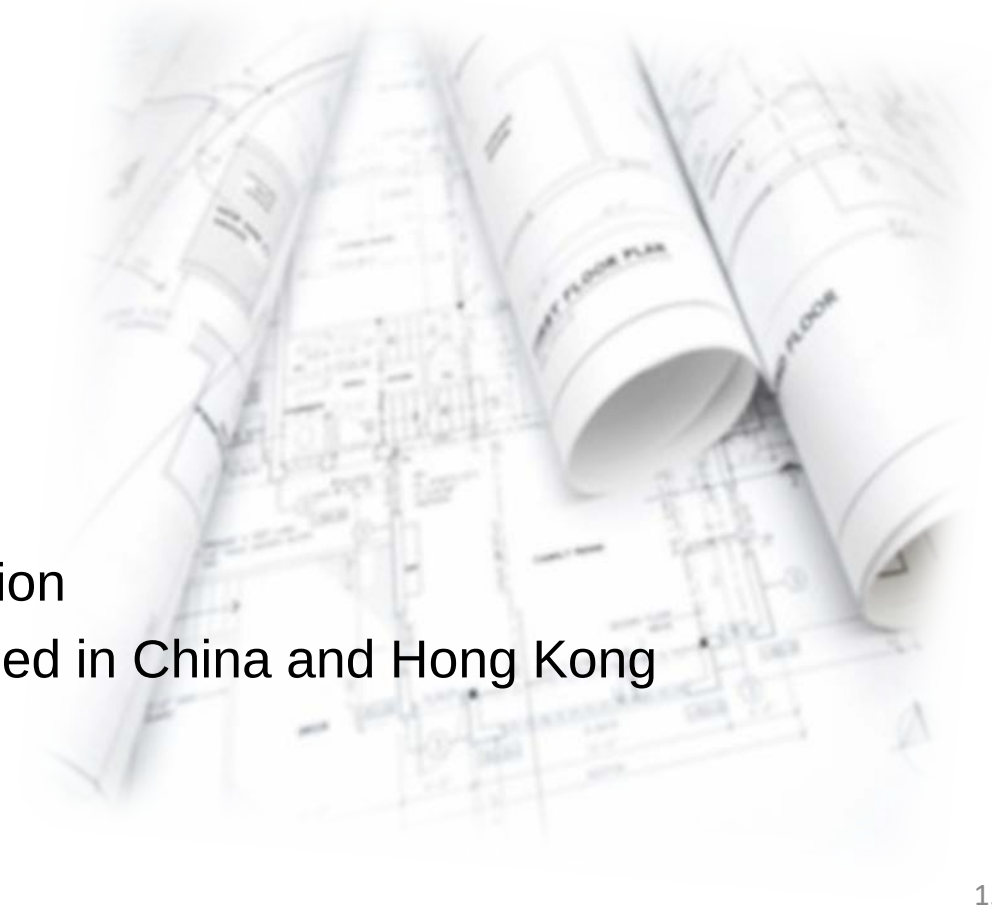
- 52 PC installed BIM tools
- 2 peoples in one group
- Group discussion

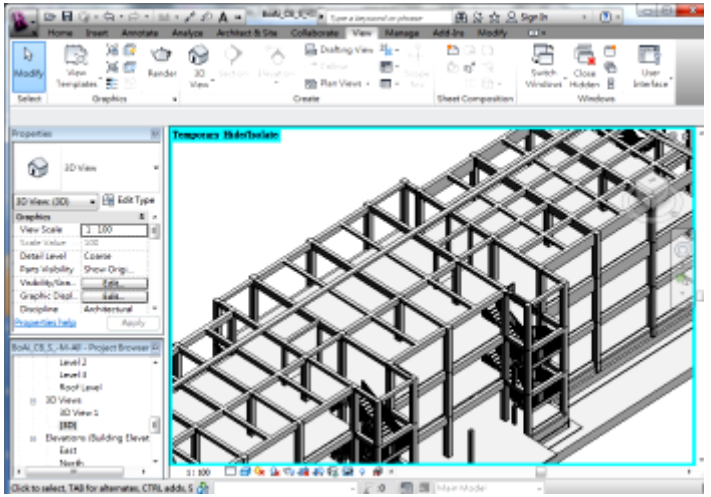




# Highlights

- Missing information
  - dimensions for structural members
  - finishing materials
  - symbols meaning
  - abbreviations
- Frequent project team updates
  - model Units
  - file Management
  - coordinates & setting out
- Close collaboration and Interaction
- Different drawing practices applied in China and Hong Kong

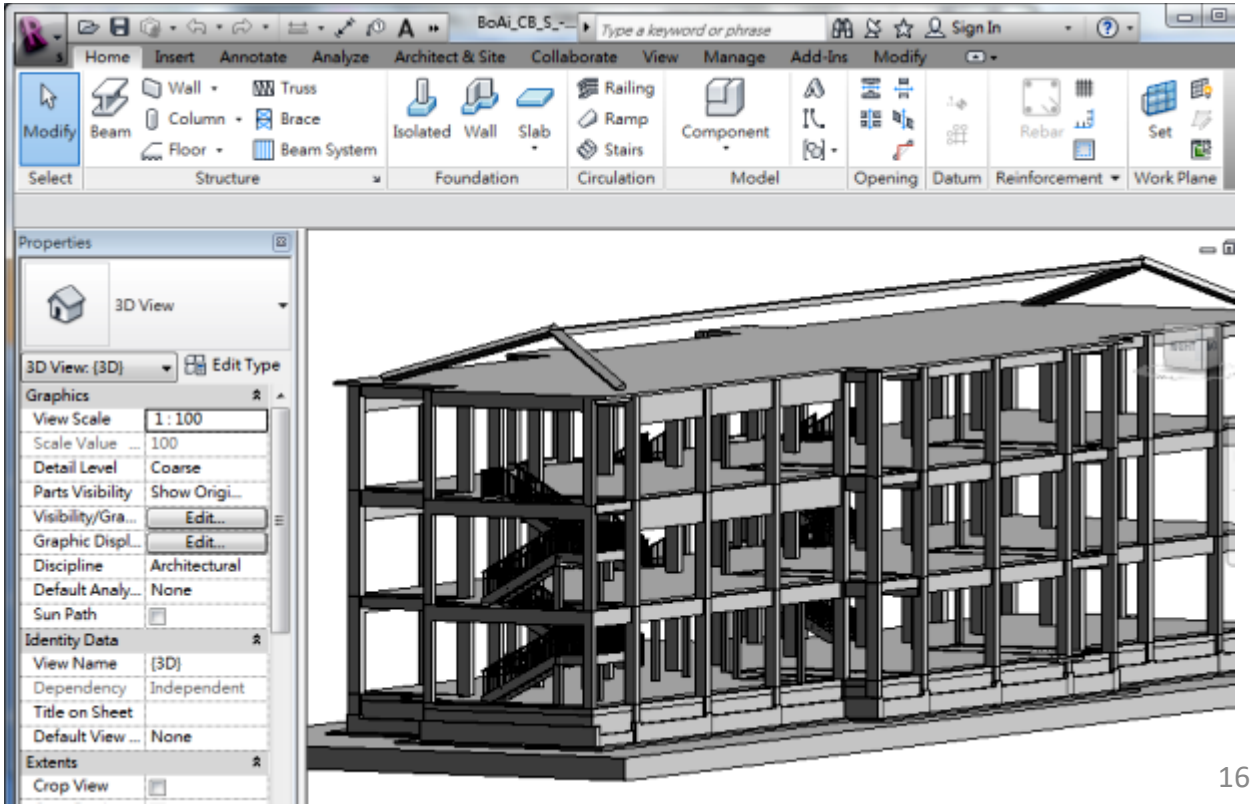


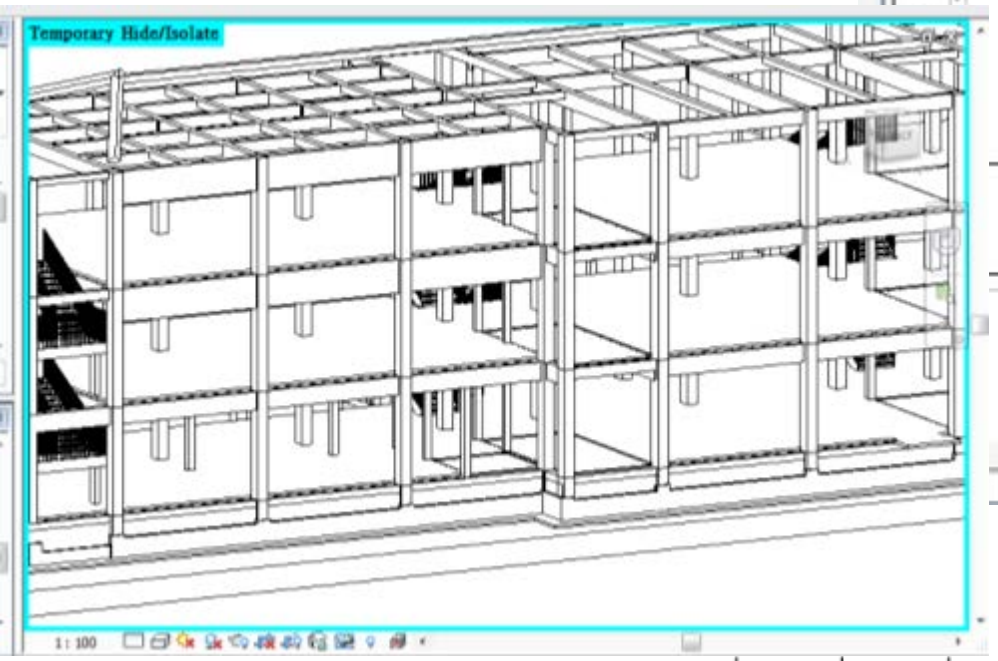


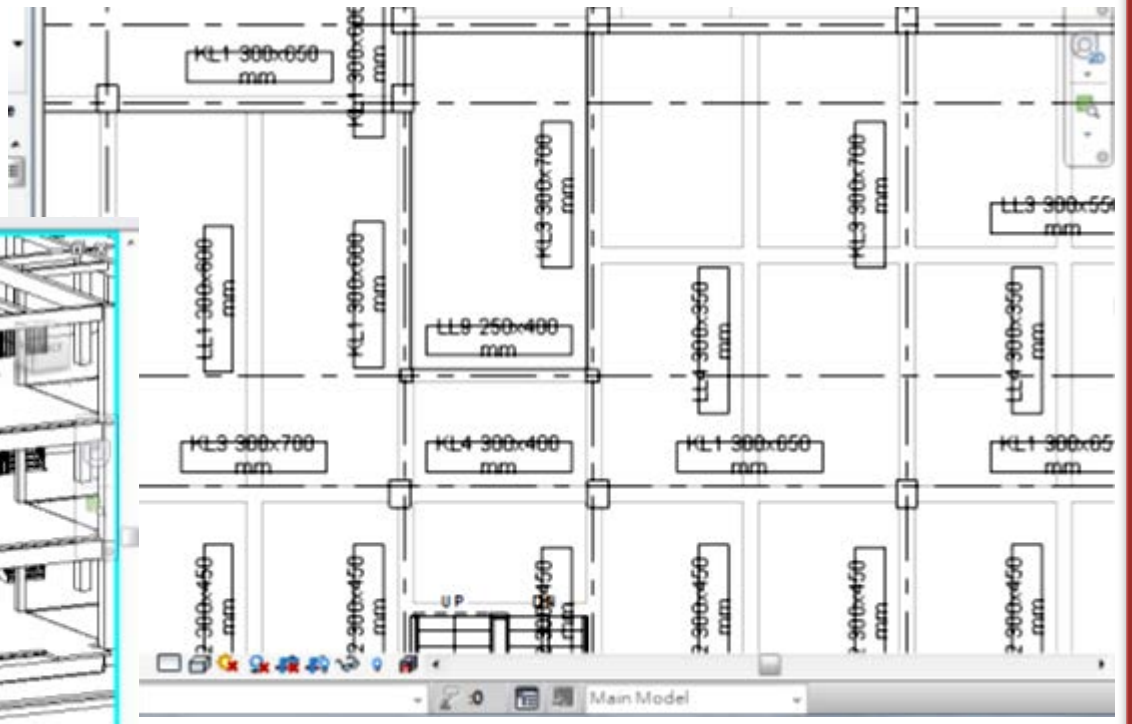
**Floor Plan (CAD drawing)**

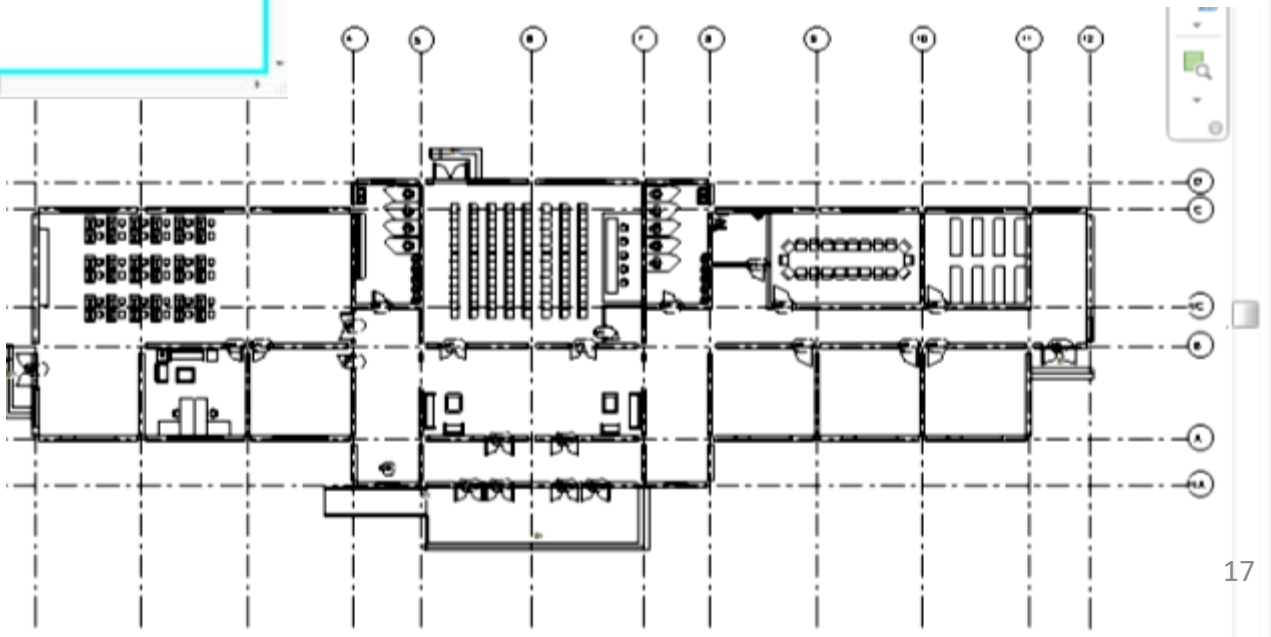
**Architectural BIM Model**

**Structural Model**




Temporary Hide/Isolate
1 : 100

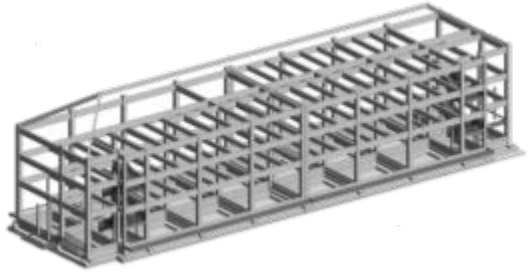

KL1 300x650 mm
KL3 300x700 mm
LL1 300x600 mm
LL9 250x400 mm
LL4 300x350 mm
KL4 300x400 mm
KL1 300x650 mm
2 300x450 mm
UP
Main Model



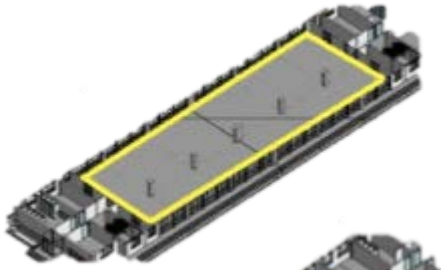
# BIM Models - Teaching Block

**Architectural Model**

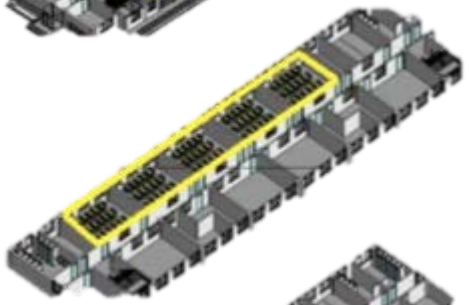
**Structural Model**



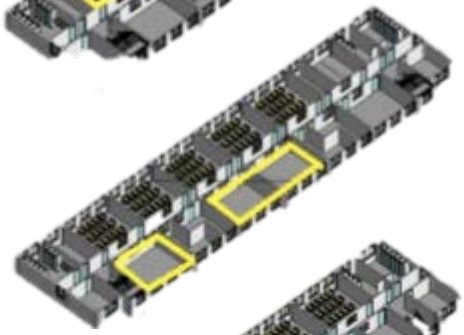
**MEP Model**



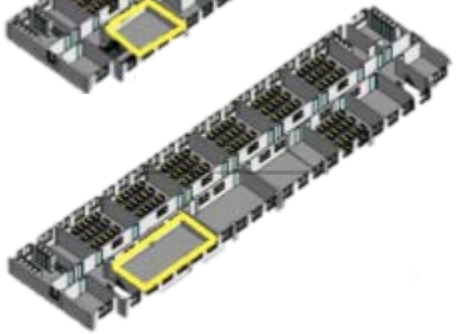
**Ground Floor**



**1/F Floor**

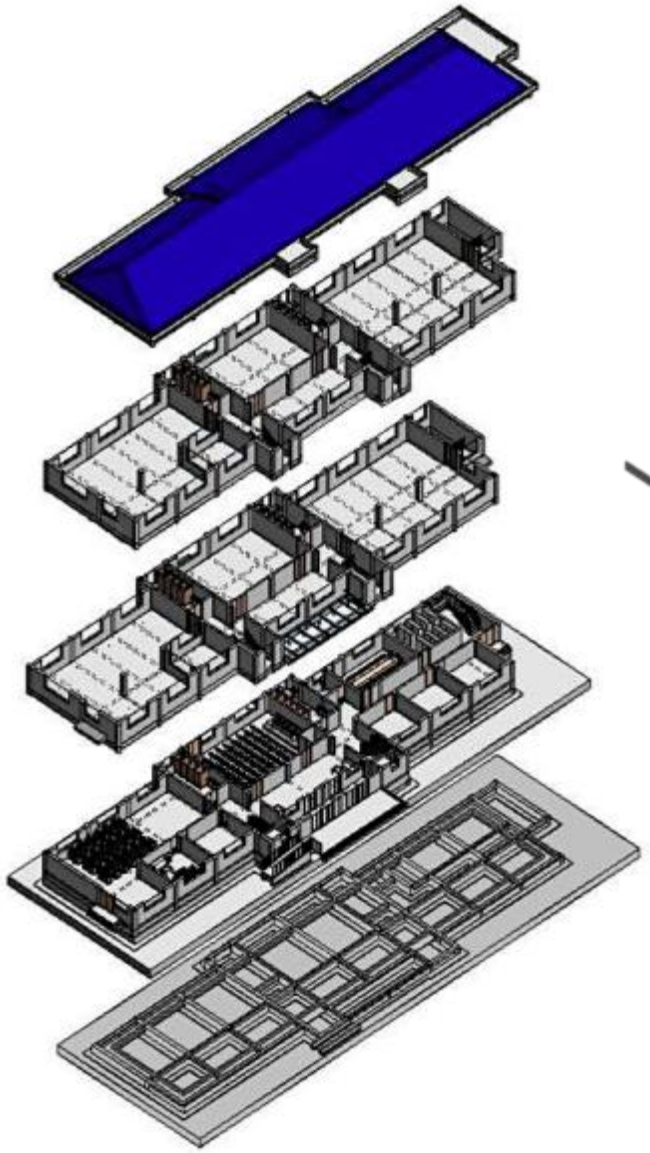


**2/F Floor**



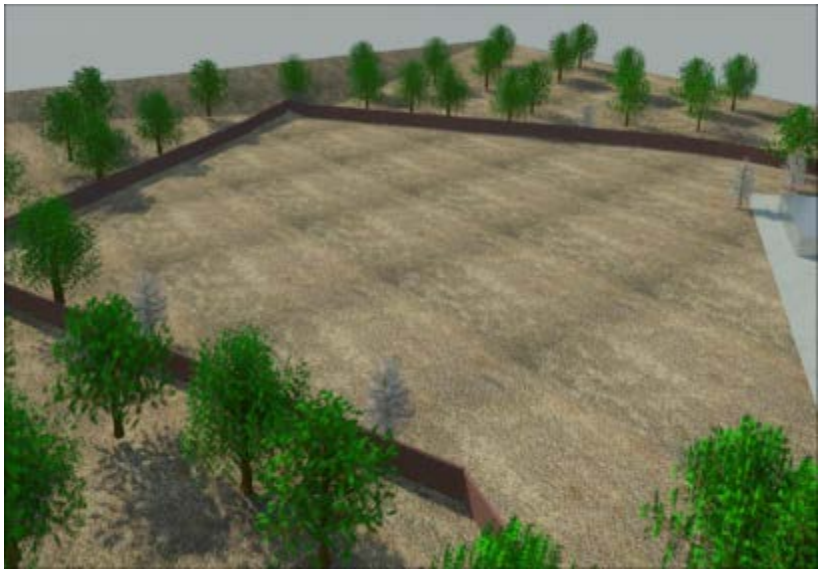
**3/F Floor**

# BIM Models - Complex Block



# Highlights

- Keeping consistency in BIM models and CAD drawing
  - e.g. color for materials
- Ordering the key steps in the construction
  - link the BIM model to the construction programe
  - generate walkthroughs animation
- Well planning and organization



# Teaching Block

# Lecture Theatre

## Complex Block

# Library 2-3/F

## Complex Block

# Complex Block

## Computer Lab

## Music Room

# Hostel Block

# What we learn

1) Get the preliminary understanding for China drawing practice
2) Learn more advanced presentation skills
2) Build up industrial working experience before graduation
3) Experience the working procedures for BIM project
4) Determine what advantages and problems in the …BIM approach
   - Early checking
   - Better

# What we learn

5) Consolidate the theory and knowledge that we learnt from the school
6) Learn the relationship between building design requirements to the project limitation
7) Establish useful working experience with the industrial team
8) more skill to present the building,
   e.g. Revit , 3D Mas…….

# Conclusion

Communication

Inconsistency

Standard

Missing Information

Teamwork

Organizing

**Collaboration**

**Thank you**