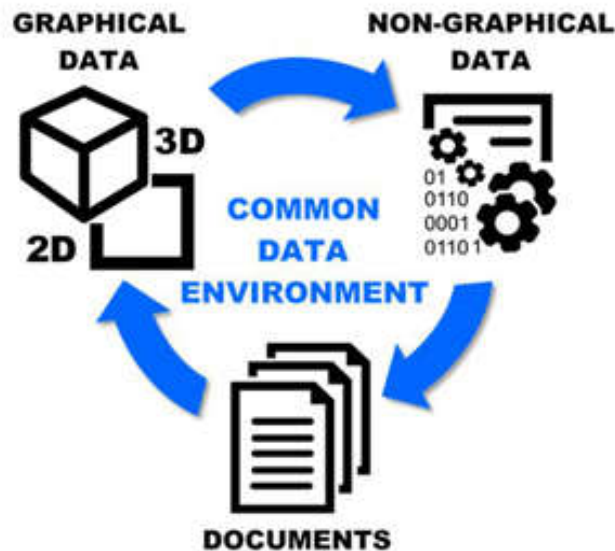## Assignment 02: Common Data Environment

The concept of the common data environment (CDE) is to provide a central repository of information, be that graphical or data based. This information can then be shared in a structured way, with layers of checking and approval to ensure that the information is correct and suitable. There is no single method of delivering a CDE. It can be based on the use of folders, use of an electronic document management system or a bespoke cloud-based solution. It will depend on the nature and scale of the project which solution is chosen.

Objectives

- To examine the key concepts and components of common data environment.
- To study its characteristics and important issues affecting the implementation.
- To apply it effectively in practical applications for building projects.

Scenario

A construction company in Hong Kong is planning to integrate BIM into a building construction project. In order to manage and coordinate the project information effectively, they would like to set up a common data environment (CDE) using BIM technology. It is hoped that the CDE can facilitate collaboration between project team members and helps avoid duplication and mistakes.

You are the Technical Manager of this company who is responsible for establishing the CDE and providing guidance on the implementation of BIM and CDE to other project team members. You are required to prepare a proposal to clearly explain the key concepts and critical components of the CDE. In the proposal, you should indicate the following information.

(a)   Major characteristics of the CDE

(b)   Relevant standard(s) or protocol(s) for establishing the CDE.

(c)   The strategy and important issues to consider when implementing the CDE.

Submission

Each student should prepare the proposal in the form of a written technical report which will be read by the senior management of the company. The report should be not more than twenty (20) A4 pages including appendices. It should be neat and properly written and organized to communicate your thinking. Proper credit and referencing should be provided to the information sources. Students making direct copy of the information in other publications or sources (plagiarism), if found, will be disqualified.

The report electronic file should be submitted through the Moodle system. The assessment criteria include quality of the content, organization, clarity of thought, and report/proposal writing skills.

Submission deadline (via Moodle): [Refer to the information on Moodle]

Resources

Common data environment CDE
   https://www.designingbuildings.co.uk/wiki/Common_data_environment_CDE
Common Data Environment (CDE): What you need to know for starters
   https://www.aconex.com/blogs/common-data-environment-cde-tutorial/
Demystifying the Common Data Environment (BIM Today)
   https://www.pbctoday.co.uk/news/bim-news/demystifying-common-data-environment/26133/

References

BCA, 2017. Singapore VDC Guide, Version 1.0 – October 2017, Building and Construction Authority, Singapore. https://www.corenet.gov.sg/media/2094675/singapore-vdc-guide_version1_oct2017.pdf

BSI, 2013. *PAS 1192-2:2013 Specification for Information Management for the Capital/Delivery Phase of Construction Projects Using Building Information Modelling*, British Standards Institution (BSI), London.

Holzer, D., 2016. *The BIM Manager's Handbook: Guidance for Professionals in Architecture, Engineering, and Construction*, John Wiley & Sons, Ltd., Chichester, West Sussex, UK. (ebook: http://webpac.vtc.edu.hk/record=b11468140)

Preidel, C. and Tretheway, M., 2017. *Making BIM Work Better with Process, Data and Tools*, White Paper, ALLPLAN, Munich, Germany. https://info.allplan.com/hubfs/07_Guides/Whitepaper_BIM_Integration_Framework_EN.pdf

Assessment Criteria and Rubrics

Assignments are evaluated based on whether a student has presented ideas in such a way that reflects integration of course material and critical thinking skills. Grades are assigned not according to competition among students (who is "the best") but according to expectations for a particular assignment relative to the material covered in class up to that point.

This assignment requires students to examine the key concepts and components of common data environment (CDE). Based on a practical scenario, students are expected to evaluate the characteristics of CDE and important issues affecting the implementation. The submission should indicate synthesis of ideas and good understanding of the strategy and important issues for implementing the CDE. The assessment rubrics are shown as follows.

Criteria (weighting%)	Levels of performance and grades			
	Insufficient (1) F	Acceptable (2) D & C	Good (3) B	Excellent (4) A
Content (40%)	Shows some thinking and reasoning but most ideas are underdeveloped and unoriginal.	Content indicates thinking and reasoning applied with original thought on a few ideas.	Content indicates original thinking and develops ideas with sufficient and firm evidence.	Content indicates synthesis of ideas, indepth analysis and evidences original thought and support for the topic.
Organization and writing (20%)	Writing lacks logical organization. It shows some coherence but ideas lack unity. Serious errors.	Writing is coherent and logically organized. Some points remain misplaced and stray from the topic. Transitions evident but not used throughout essay.	Writing is coherent and logically organized with transitions used between ideas and paragraphs to create coherence. Overall unity of ideas is present.	Writing shows high degree of attention to logic and reasoning of points. Unity clearly leads the reader to the conclusion and stirs thought regarding the topic.
Clarity and coherence (20%)	All the information is not clearly presented. Lack of coherence and logical consistency.	Some information is not clearly presented. Weak coherence and logical consistency.	The information is clearly presented. Logical interconnection and consistency are shown.	The information is clearly and effectively presented. Good coherence and logical consistency are demonstrated.
Critical thinking and Innovation (20%)	No critical thinking or innovative ideas are applied.	Some attempts to propose critical thinking or innovative ideas.	Critical thinking or innovative ideas are proposed, but no justification.	Critical thinking or innovative ideas are proposed with evaluation and justification.

Remark: To avoid plagiarism, all sources used in the report should be acknowledged and referenced throughout, in accordance with the preferred method of academic professionals.