**Appendix E**

**A SYSTEMS ANALYSIS APPROACH TO INFORMATION-LEVEL REQUIREMENTS**

Critical Thinking Questions

1. Use books, the Internet, and/or other sources to investigate “best practices” in conducting interviews to determine system requirements. Prepare a one-page, double-spaced document report that summarizes your findings. Include links or citations for your source documents.

Answers will obviously vary, but “best practices” in conducting interviews to determine systems requirements start with the same “best practices” in conducting general interviews such as…

--creating a convenient location and comfortable environment

--putting the interviewee at ease

--properly reviewing, confirming, and documenting all information gleaned from the interview.

Students may consult the following scholarly articles for more insight:

<https://pdfs.semanticscholar.org/1dd4/cacef15f08074c85fdde6c733300f9ddc95a.pdf>

<https://www.wisdomjobs.com/e-university/system-analysis-and-design-interview-questions.html>

<http://www.cs.uu.nl/research/techreps/repo/CS-2008/2008-047.pdf>

<http://www.umsl.edu/~sauterv/analysis/analysis_links.html>

1. Use books, the Internet, and/or other sources to investigate “best practices” in creating questionnaires to determine system requirements. Prepare a one-page, double-spaced document report that summarizes your findings. Include links or citations for your source documents.

Answers will obviously vary, but “best practices” in creating questionnaires to determine systems requirements start with the same “best practices” in creating questionnaires in general such as…

--creating unambiguous questions that are clear and easy to answer

--using a 5- or 7-point Likert scale to measure degrees of satisfaction or other subjective opinions as appropriate

--testing the questionnaire on a pilot group of users and revising it as needed

--completing the questionnaire with an open-ended question in case the interviewee wants to offer information that has not previously been addressed

Students may consult the following scholarly articles for more insight:

<https://www.pewresearch.org/methods/u-s-survey-research/questionnaire-design/>

<https://www.gssaweb.org/wp-content/uploads/2015/04/Best-Practices-in-Questionnaire-Design-1.pdf>

1. Use books, the Internet, or other sources to investigate modeling tools such as use cases and data flow diagram tools. Prepare a one-page, double-spaced document report that summarizes the features and benefits of use cases versus data flow diagram tools. Include a sample of each, as well as links or citations for your source documents.

Answers will vary, but a recognition that each diagramming tool is primarily aimed at a different portion of the analytical process is key. One of the major benefits of a use case diagram is communication. By looking at the use cases, developers learn what functionality will be included in the system. A data flow diagram is a graphic representation of a system. It consists of data flows, processes, sources, destinations and dependencies.

Samples of each and scholarly documents on the comparison of diagramming tools can be found at:

<http://www.umsl.edu/~sauterv/analysis/f06Papers/Nitakorn/>

<http://www.ijsrp.org/research-paper-0316/ijsrp-p5122.pdf>

The following links reference use case diagram tools.

<https://www.visual-paradigm.com/solution/usecase/use-case-tool/>

<https://www.smartdraw.com/use-case-diagram/>

<https://creately.com/diagram-type/use-case>

The following links reference data flow diagram tools.

<https://www.draw.io/>

<https://www.lucidchart.com/pages/examples/data-flow-diagram-software>

<https://online.visual-paradigm.com/diagrams/features/dfd-maker/>