CC2020 Project
CC2020 Competency-Curricula Group

NOTES
Meeting of 2018 January 11

1. The meeting of the CC2020 Competency-Curricula Group has taken place, Thursday, 11 January, 2018 in a virtual setting conducted via Zoom, hosted by Bentley University through Heikki's assistance. Meeting time was 07:00 US Pacific time = 10:00 US Eastern time = 23:00 Beijing time = 24:00 Tokyo time.

2. John, competency group chair, called the meeting to order at 10:01 US Eastern time. In attendance were ten of the fourteen competency group members. Four people sent their regrets due to prior commitments. See member and attendance listing at the end of these notes.

3. Each of the attendees provided a one-minute introduction of themselves.

4. John provided a brief overview of the CC2020 project, noting that the:
   a. CC2020 task force (TF) consists of thirty-six people representing sixteen countries and six continents;
   b. CC2020 steering committee (SC) partitioned the TF, at least initially, into three groups: the report writing group, the comparison tool group, and the competency-curricula group;
   c. Competency-curricula group charged with an innovative and futuristic update of the CC2005 curricular representations;
   d. SC adopted the word "computing" to represent the broad field of all computing;
   e. SC adopted the principle of competency-based curricular guidelines for the project vis-à-vis the activities of IT2017, MSIS2016, and CS Principles projects. The master's MSIS2016 report uses competencies as entry expectations to an IS graduate program.

5. A lengthy discussion ensued on meaning of competency. As a starting point, the group used the definition that appeared in Chapter 4 of the IT2017 report that uses three dimensions to describe competency that learning theorists define as:

   Competency = Knowledge + Skill + Disposition

   where disposition relates to the human attributes and characteristics expected from computing professionals in computing environments. Chapter 3 of the MSIS2016 report uses a similar but more verbose definition for competency. The word "professionalism" or "ability" or "effectiveness" or "human skills" were suggestions for a "disposition" substitute. After members expressed their views, the next iteration of competency should reflect the understanding that

   Competency = Knowledge + Technical Skills + Human Skills

   This will be the working definition for now until the group proposes other terminology.[1]

6. Group participants then discussed the immediate activity of the competency group, which is to focus on transforming the knowledge areas, knowledge units, or learning outcomes of existing curricular guidelines as they appear on the ACM education website[2]. The documents involved are

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[1] For example, Figure 5.6 of the IT2017 report uses "Technical Skills" and "Baseline Skills" for the last two dimensions of competency.
[2] https://www.acm.org/education/curricula-recommendations/

CE2016, CS2013, IS2010, and SE2014. The IT2017 document is not involved now because its recommendations already include stated competencies in three dimensions. The strategy is to distill the knowledge outcomes of each CE, CS, IS, SE report into a few dozen competencies (knowledge, technical skills, human skills) rather than almost a thousand learning outcomes for each report. John explained the strategy used in the IT2017 Clusters (Chapter 6) to accomplish this task by combining two or more knowledge units (or equivalent) from each knowledge area (or equivalent).

7. The participants addressed the four subgroups that will engage in developing the competencies and selected the leaders of each subgroup. The results are as follows.

Subgroup	Members	Leader(s)
CE (Computer Engineering)	Arnold, Barry, John, Olga	Barry and/or Arnold
CS (Computer Science)	Ariel, Bruce, Ming, Richard	Bruce
IS (Information Systems)	Ariel, Eiji, Hala, Heikki, Teresa	Eiji
SE (Software Engineering)	Hala, Nancy, Richard, Barbara	Nancy and Rich

8. Subgroups are most welcome to include individuals beyond the TF to engage in this effort. Such individuals will receive appropriate recognition such as project "Contributors" in the final report.

9. Subgroups will meet every three weeks with May 2018 as a target to develop two dozen competencies from each curricular report. Leaders should set up their own online discussion platforms (e.g., Skype, Zoom, Slack, Basecamp, etc.) to conduct virtual meetings. Heikki will review possible systems and make recommendations. The first subgroup meeting should occur before the end of January.

10. The next competency-curricula group meeting will take place in late February or early March. John will send a notice regarding the same.

11. The meeting adjourned at 11:08 US Eastern time.

Respectfully, submitted,
John Impagliazzo
2018 January 13

CC2020 COMPETENCY GROUP MEMBERS (14)

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= Steering committee (SC) member
* = Sent participation regrets