

Department of Computer Science and Engineering  
College of Engineering, University of Nevada, Reno

CS 425/ CS625 Software Engineering

Assignment #1

September 3, 2008

**Due:** Thursday, September 18, @ 5:00 p.m.

**Exercises:** 5

**Points:** 45

**Weight in course grade:** 6%

- 1** Research the library and/or the world-wide-web and find two examples of large software systems (hundreds of thousands of lines of code or more) that have been developed by companies during the last decade. In your own words, describe the software systems in terms of main goals, main components (or sub-systems), and functionality (300-400 words for each system). Indicate the references used. [10 points]
- 2** Give an example of a software product that you, as an entrepreneur and project manager would like to develop with a group of 4 or 5 software engineers under your supervision. Describe this product (in 400-500 words) and explain why it would be useful and innovative. Also, briefly outline how you would organize your team and what type of professionals you would like to work on the project. [10 points]
- 3** The following table sets out a number of activities, durations, and dependencies. Draw an *activity network chart* and a *bar chart* showing the project schedule. Indicate the critical path and specify the minimum time required to finish the project. [15 points]

Task	Duration (days)	Dependencies
1	8	
2	10	T <sub>1</sub>
3	12	T <sub>1</sub>
4	10	T <sub>1</sub>
5	4	T <sub>1</sub>
6	8	T <sub>2</sub>
7	16	T <sub>2</sub>
8	10	T <sub>3</sub> (M <sub>1</sub> ), T <sub>4</sub> (M <sub>2</sub> )
9	10	T <sub>3</sub> (M <sub>1</sub> ), T <sub>5</sub> (M <sub>3</sub> )
10	14	T <sub>4</sub> (M <sub>2</sub> ), T <sub>5</sub> (M <sub>3</sub> )
11	14	T <sub>6</sub> , T <sub>7</sub>
12	6	T <sub>7</sub> (M <sub>4</sub> ), T <sub>9</sub> (M <sub>5</sub> ), T <sub>11</sub> (M <sub>6</sub> )
13	10	T <sub>8</sub> , T <sub>9</sub> (M <sub>5</sub> ), T <sub>10</sub>
14	12	T <sub>13</sub>
15	6	T <sub>12</sub> (M <sub>7</sub> ), T <sub>14</sub>

- 4** Do Exercise 4.1, page 91 of the textbook [Ian Sommerville, *Software Engineering*, 8<sup>th</sup> Edition, Addison-Wesley 2006]. [6 points]

- 5** Do Exercise 4.9, page 91 of the textbook [Ian Sommerville, *Software Engineering*, 7<sup>th</sup> Edition, Addison-Wesley 2004].

[4 points]

**Notes on submission:**

- Note this is an *individual assignment*, not a team work. Thus, collaboration is not allowed.
- Hand in the *printed hardcopy* of your assignment to the instructor in room SEM-236. If he is not there, slip your assignment under his office's door or leave the assignment in his mailbox (in the CSE Department's main office).