Unit: Project Management   ICS 4U
Topic: What is a Project?
Time: 1 class

Specific Expectations

B1.1   create a software project plan by producing a software scope document and
            determining the tasks, deliverables, and schedule;
D4.3   research and describe careers associated with computer studies (e.g., computer
            scientist, software engineer, systems analyst), and the postsecondary education
            required to prepare for them;

Teacher Notes

The first task in this unit is to discover what a project actually is. Students may have difficulty
brainstorming the characteristics of a project. Some possible questions have been provided to help
guide the students through the process. Below is a copy of the questions with ideas that you are aiming
to have the students discover.

1.   In the classroom when a teacher assigns a project, what type of information do you expect
      the teacher to give you? – outline, marking scheme, benchmarks, due date
2.   How does a classroom project differ from a classroom assignment? – longer, more tasks,
      more complex
3.   What process do you go through to complete the project? – divide up the work, ask
      questions, meet deadlines and/or benchmarks
4.   If you are working in a group, how is the work divided up? – skills of team member, volunteer
      for sections, resources of team members
5.   How is a leader chosen for the group? – volunteer, take over
6.   Have you completed classroom projects that can be used in other classes? If yes, were
      modifications needed? – answers will vary but modifications need to be done in most cases
7.   Think about some of the projects completed in the past few years. What did they all have in
      common? – specific time period, multi-task, presentation, related to class outcomes
8.   Jerry and his dad started a project last fall. They restored a 1964 Ford Mustang for entry in
      this year's local car show.
      a. What does this project have in common with projects completed in the classroom? –
          start and end date, multi-task, definite goal
      b. When this project is completed, will the final result, the restored car, still be viable? – car
          will be useful beyond the end of the restoration period
      c. Jerry used his skills in Internet research to find authentic parts for the car. Would you
          consider this a project in itself or a stage in the process? Explain. –stage because it is
          part of the overall process
9.   List three characteristics found in all projects.

Content/Student Note

- Three characteristics of a project
  - Temporary, having start and end dates.
  - Results in an unique product or service
  - Multi-task job with longer lifespan than project itself.

- More specifics about projects
  - All projects have a beginning, an end, and a schedule.
  - Projects make use of specific resources available to the team.
  - Projects meet specific goals.
  - Projects are completed using a planned and organized approach.
  - Projects are completed by a team.

Teaching Strategies

- Students, working in groups of two, brainstorm the characteristics of a project. From students ideas as a class, develop three major characteristics of a project. (see attached questions, What is a Project?)
- Get students to consider projects that never seem to get off the ground. E.g. the second bridge over the Detroit River. Discuss issues involved in large projects.
- Note: Three Characteristics of a Project
- Overhead: Which of these are Projects? (answer: yes, ongoing, stage, stage or ongoing, yes, deadline with no project definition, yes)
- Note: More specifics about projects
- Students research the career of project manager to complete activity: Career: Project Manager. Activity to be placed in folder, Careers.
- Start of next class—discuss role of project manager.
- Assign reading. See attached list of questions to accompany the readings.

Activity

- Career: Project Manager. See accompanying assignment.
- Read articles on projects from resources listed.

Assessment

- √Observation of task completion
- √Portfolio: Careers in Computer Studies. Perform a visual check for completion. Students to submit portfolio near end of course.

Resources

- http://en.wikipedia.org/wiki/Project_management
- http://www.suite101.com/lesson.cfm/17517/886/2
- http://www.mariosalexandrou.com/blog/?p=69

Visual Aids/Equipment

- Photocopy: What is a Project
- Overhead: Which of these are Projects?

What is a Project?

Brainstorm the characteristics of a project with another student. Use the following questions to help you focus on projects and their characteristics.

1. In the classroom when a teacher assigns a project, what type of information do you expect the teacher to give you?
2. How does a classroom project differ from a classroom assignment?
3. What process do you go through to complete the project?
4. If you are working in a group, how is the work divided up?
5. How is a leader chosen for the group?
6. Have you completed classroom projects that can be used in other classes? If yes, were modifications needed?
7. Think about some of the projects completed in the past few years. What did they all have in common?
8. Jerry and his dad started a project last fall. They restored a 1964 Ford Mustang for entry in this year's local car show.
   a. What does this project have in common with projects completed in the classroom?
   b. When this project is completed, will the final result, the restored car, still be viable?
   c. Jerry used his skills in Internet research to find authentic parts for the car. Would you consider this a project in itself or a stage in the process? Explain.
9. List three characteristics common in all projects.

Which of these are Projects?

1. A local software company has been asked to develop a software package that can be used by groups to plan and put on a concert.

2. The school board's IT team is responsible to replace computers—hardware and software—every five years.

3. External user and documentation for a software application is needed immediately.

4. You spend 2 -3 hours each day researching material in order to respond to email.

5. You are asked to examine the application process for post secondary funding in order to implement a more streamlined approach.

6. You are expected to improve your programming standards this year.

7. Caribou herds are in decline. With species-at-risk biologists, you are asked to examine the factors affecting population growth and implement a plan for herd sustainability.
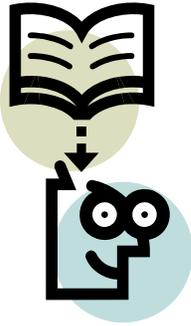
Career: Project Manager

This activity is the first of a number of short research assignments on various careers in the computer studies field. Each activity, when completed, is to be placed in a folder called careers. This portfolio will be collected by your instructor throughout the course.

Answer each of the following questions. Record your answers using a word processing application.

1. Define project manager.
2. What responsibilities does the project manger have?
3. What education/background is needed for a software development project manager?
4. Write a short job description for a project manager for a grade 12 classroom project.
5. List **all** you resources.

Reading Assignment

Read each of the following articles. Use the accompanying questions as a guide to record information. Remember, that this material may not necessarily be covered formally in the classroom but you are responsible for the material.

- http://en.wikipedia.org/wiki/Project_management
- http://www.suite101.com/lesson.cfm/17517/886/2
- http://www.mariosalexandrou.com/blog/?p=69

1.	Define the following terms.
	a.	Project management
	b.	Project
	c.	Project manager
2.	In the traditional approach to project management, what are the five stages?
3.	For each stage in project management
	a.	What is done during this stage?
	b.	Who is involved in each stage?
4.	Projects are considered to be temporary. Why?
5.	Projects are unique. What is the difference between a program and a project?
6.	What is meant by progressive elaboration?
7.	From the article on Project Management Lessons from NASA, choose the five that strike you as most important. What did you learn from these five lessons?