Audience and Purpose

- Objectives
  - The impact of audience.
  - The impact of purpose.
  - Tailor communication by audience and purpose.
- Main references
  - M. Markel, Technical Communication, 9th Ed., Bedford/St. Martin's, 2010.
  - J.G. Paradis and M.L. Zimmerman, The MIT Guide to Science and Engineering Communication, 2nd Ed., MIT, 2002.

Introduction

- Audience and purpose determine everything about your communication.
  - Level of success.
  - The way you should communicate.
- Ex Write for a journal to present a new inference algorithm for uncertain reasoning.
- Ex Present the algorithm in a department seminar.
- Ex Explain what you are doing in graduate school to the general public.

Audience

- Academic world: Students, teachers, examiners, referees, conference participants, journal readers, funding agency committees, public, etc.
- Industrial world: Technicians, peer scientists, supervisors, managers, public, etc.
- Audience differs in …
  - Job responsibility and response.
  - Information need.
  - Education and background.

Purpose

- Academic world
  - Education.
  - Demonstrate your accomplishment.
  - Request approval of research plan.
  - Publication of discovery.
  - Apply for funding.
- Industrial world
  - Establish feasibility of a system design.
  - Request approval of a R&D project.
  - Others.

Impact to Coverage

- The proper scope of your communication depends on the audience and purpose.
- Coverage
  - Literature.
  - Algorithmic details.
  - Soundness and complexity analysis.
  - Functionality and user interface.
  - Development costs and resources.
  - Social and economical benefits.

Impact to Organization

- Academic communications have formed conventions on the organization based on audience and purpose.
  - Research proposals and QE docs.
  - Seminar/conference presentation.
  - Thesis.
  - Conference/journal articles.
- Communication in industry may need more discretion from the author.

Impact to Technical Level

- Audience's needs and educational backgrounds determine what is the <u>appropriate</u> technical level.
- Technical levels
  - Informal vs formal/mathematical.
  - Layman's language vs jargon terms and symbols.
  - Examples vs general formulations.

Ex-1 Outline for Course on Constraint Satisfaction Problems [Bacchus, 2007]

"Reasoning about constraints is a very active area of research within AI. One of the reasons for this is that problems involving constraints appear in many areas of AI and computer science in general, another reason is that many important practical problems involve solving constraints and thus constraint reasoning has had more of a practical impact than many other areas of AI: a number of large companies have been created that market software systems for doing constraint reasoning. Constraints and constraint reasoning has been applied to areas like computer vision, natural language processing, user interfaces, graphics, operations research, etc."

Ex-2 Define Constraint Satisfaction Problems [Russell & Norvig, 2003]

"a constraint satisfaction problem … is defined by a set of variables, $X_1, X_2, …, X_n$, and a set of constraints, $C_1, C_2, …, C_m$. Each variable X_i has a nonempty domain D_i of possible values. Each constraint C_i involves some subset of the variables and specifies the allowable combinations of values for that subset. A state of the problem is defined by an assignment of values to some or all of the variables, $\{X_i = v_i , X_j = v_j , …\}$. An assignment that does not violate any constraints is called a consistent or legal assignment. A complete assignment is one in which every variable is mentioned, and a solution to a CSP is a complete assignment that satisfies all the constraints."

Ex-3: Map Coloring

"The figure below shows a map of seven regions. The task is to color each region with one of red, green and blue such that no adjacent regions have the same color. This map coloring problem is an example of constraint satisfaction problems."
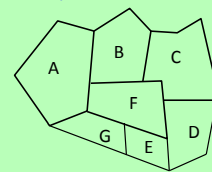
Identify Audience and Address Their Needs

- Document's pathway helps to identify audience.
  - Ex Pathway of a journal submission.
  - Ex Pathway of a company R&D report.
- When a diverse audience is involved, care should be taken to address different needs.
  - Technical levels in different sections may differ due to different intended audience.
  - Pointers may be given to direct individual audience groups.
  - Summarize clearly what the document is about in abstract and introduction.