

 Software Engineering

 Overview

 To successfully manage software development, the project leader must determine:

 1. Scope of work to be done

 2. Risks to be incurred

 3. Resources that will be required

 4. Tasks to be accomplished

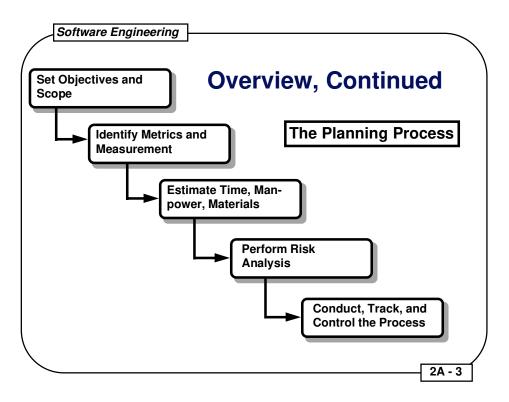
 5. Effort (cost) that will be expended

 6. Schedule to be followed

 Software project management begins before the technical work starts.

 Software project management ends when the software is retired.

- Many factors, such as risks, resources, effort (cost), and schedule are difficult to determine in advance without information from previous projects.
- In this vein, there is an emphasis on collecting **software metrics** and then using those metrics to make **estimates** which are reasonably close.
- Industry has traditionally not been good at collecting software metrics on its projects because:
 - Collecting metrics costs money and takes time, both of which have a direct impact on a project, particularly if they were not planned for in advance
 - Collecting metrics can be tedious work -- something that many software practitioners tend to avoid



- Software in industry is usually developed under the following situations:
 - O As part of a product
 - **O** In support of a product
 - O As an activity of research and development
- In the first two cases, budgets are allocated based on the cost estimates. If software is developed for a customer, the award of a contract may be on a firm, fixed-price basis or on a cost-plus or cost-reimbursable basis.