Participants in Systems Development

Initiating Systems Development

Trends in Systems Development and ERP

Systems Development Life Cycle (SDLC)
Advantages and Disadvantages of Traditional SDLC

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal design at the end of each phase allows maximum management control.</td>
<td>Many go into systems that need not be systems defined by the developers; they may not be ones that were really needed.</td>
</tr>
<tr>
<td>The approach creates considerable system documentation.</td>
<td>Documentation is expensive and time-consuming to create; it is often difficult to keep current.</td>
</tr>
<tr>
<td>Precise documentation means that support requires fewer changes to be made to system-related code.</td>
<td>Often, users go untrained or are untrained at all.</td>
</tr>
<tr>
<td>It produces many intermediate products that can be reviewed to see whether they meet the user's needs and conform to standards.</td>
<td>More secretaries review intermediate products and evaluate entire system products, e.g., data flow diagrams, user business requirements.</td>
</tr>
</tbody>
</table>

Prototyping

Advantages and Disadvantages of Prototyping

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Users can try the prototype and provide constructive feedback during development.</td>
<td>The final system may be incrementally better than the initial system.</td>
</tr>
<tr>
<td>An operational prototype can be produced in weeks.</td>
<td>Formal end-of-phase reviews may not occur. Thus, it is very difficult to ensure that the time of the prototype and final system is comparable.</td>
</tr>
<tr>
<td>As solutions emerge, users become more positive about the process and the result.</td>
<td>System documentation is often absent or incomplete, since the primary focus is on development of the prototype.</td>
</tr>
<tr>
<td>Prototyping reduces early design errors and costs.</td>
<td>System fail-back and recovery performance and safety issues can be overlooked in the haste to develop a prototype.</td>
</tr>
</tbody>
</table>
Rapid Application Development (RAD)

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Drawbacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>For small site projects, this approach (and an application integration plan) minimizes the risk of integration problems. Documentation is produced as a by-product of developing the application. RAD requires a larger percentage of involved users than other approaches.</td>
<td>This method BOD can turn out systems developers and other project participants. This approach requires systems analysts and users to be aware of RAD system development tools and RAD.</td>
</tr>
</tbody>
</table>

Extreme Programming

- An integrated set of techniques based on simplicity and feedback.
  - Pair Programming
  - Testing
  - 40-Hour Week
- Code is integrated once per day
  
http://www.xprogramming.org

Factors Affecting Systems Development Success

Project Management

- Project schedule
- Project milestone
- Project deadline
- Critical path

Use of Project Management Tools

Critical Path Method (CPM)

- Start Dishwasher
- Dishwasher runs
- Have Shower
- Drive to Work
- Make Coffee

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Object-Oriented Systems Investigation

FiguRe 12.14
User Case Diagram for a Kayak Rental Application

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Systems Analysis

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Identifying Sources of Data

Internal Sources

- Users, stakeholders, and managers
- Organizational charts
- Forms and documents
- Procedures manuals and guidelines
- Financial reports
- E-mails
- Other measures of business process

External Sources

- Customers
- Suppliers
- Researchers
- Government agencies
- Competitors
- Outside groups
- Associates, etc.

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Collecting Data

FiguRe 12.17
The Stages in Data Collection

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Entity Relationship Modeling

Man 1 Marriage 1 Woman

Mother 1 N has Child(ren)

Student N M Professor

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Thank you!

The slides will be available on the internet at http://ruby.fgcu.edu/courses/mhepp/ (-> CRN80097)

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