Midterm Exam
406.306 Management Information Systems
Spring, 2007
Date: April 26, 2007

YOUR NAME:

1. (10 points) What would be the eventual form of governance under the electronic market hypothesis? Why?

reverse market

2. (10 points) What is the legacy problem? Explain the problem characteristics by use of an example.

3. (10 points) What are the expected advantages and disadvantages of extending the 3 tier architecture into the 4 tier through adding business process layer?
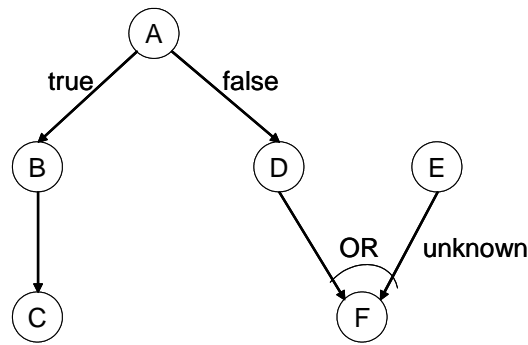
advantages:
reuse of BPs
reduced complexity
independence of change: only the interfaces need to be changed

disadvantages: communication overhead between the layers

4. (10 points) What is the most widely used method for integrating the old terminal based mainframe legacy applications with an EAI platform? And, how does it work?

screen scraping

5. (20 points) Consider the following workflow graph. (Note: Activities B and D are supposed to be executed in parallel.)

5-1. If we do not have DPE (Dead Path Elimination), is there a possibility that the activity "F" is executed later? Justify your answer. (Note: A join condition can be valuated only after all the incoming transition conditions are evaluated.)

No.
The link (D,F) is undefined forever. Therefore, the join condition of F will never be evaluated.

5-2. If we apply DPE at this point, is there a possibility that the activity "F" is executed later? Justify your answer. (Note: DPE makes valuation of all the outgoing transition conditions of dead activities.)

Yes.
As soon as B is chosen, the value of the link (D,F) will become false by DPE. Later, after E has been performed, the value of the link (E,F) may be set to true. At this point, the join condition of F can be evaluated, and since its value is true, F can be executed.

6. (15 points) Discuss the potential problems that can arise when BPMS is used for managing very long running projects such as new product development.

7. (15 points) Consider the following XML schema definition, and give a valid instance of XML document that conforms to the schema.

```
<element name="book">
        <complexType>
                <sequence>
                        <element name="title" type="string"/>
                        <element name="serial" type="int/>
```

```
                              <element name="author" type="authorType" minOccurs="2"/>
                    </sequence>
          </complexType>
</element>
<complexType name="authorType>
          <sequence>
                    <element name="firstname" type="string"/>
                    <element name="lastname" type="string" minOccurs="0"/>
          </sequence>
          <attribute name="SSN" type="ID"/>
</complexType>
```

example answer:
```
<book>
          <title>IE462</title>
          <serial>123</serial>
          <author SSN="77777">
                    <firstname>Jonghun</firstname>
                    <lastname>Park</lastname>
          </author>
          <author SSN="9999">
                    <firstname>SeungKyun</firstname>
          </author>
</book>
```

(Note) There must be at least two authors. The last name of an author is optional.

8. (10 points) List the issues to be addressed for defining a complete business model.

value proposition
revenue model
market opportunity
competitive advantage
market strategy
organizational development
management

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