Cs2310 Homework 1

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# Part 1: IC Card Design

IC Card

IC Name: Schedule\_picnic\_date  
Description: Schedule\_picnic\_date  
Interaction Pattern:

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| --- | --- | --- | --- | --- | --- |
| http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/mixedstate.png Mixed |

My Task: Call the weather center to pick a sunny day of the next week for picnic  
Time Critical Condition:   
Name of Other IC: weather center  
Message to Other IC: Which days will be sunny during the next week?  
Other IC's Task: Check the weather system to figure out the sunny days of the next week  
Card 1of 5 (If necessary please use several IC cards to describe an IC)

IC Card

IC Name: Determine\_picnic\_place  
Description: Determine picnic place  
Interaction Pattern:

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| http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/mixedstate.png Mixed |

My Task: Call the park manager to check out if any place can hold around 20 people for a picnic and appropriate for sports, and then reserve one.  
Time Critical Condition:   
Name of Other IC: Park manager  
Message to Other IC: If any place in the park can hold around 20 people for a picnic and appropriate for sports  
Other IC's Task: Check the system to see if any place meet the requirement, and reserve one for me.  
Card 2of 5 (If necessary please use several IC cards to describe an IC)

IC Card

IC Name: Invite\_friends  
Description: Invite friends  
Interaction Pattern:

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| http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/mixedstate.png Mixed |  | http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png |

My Task: Invite friends  
Time Critical Condition:   
Name of Other IC: My friend  
Message to Other IC: Invitation  
Other IC's Task: accept or decline  
Card 3of 5 (If necessary please use several IC cards to describe an IC)

IC Card

IC Name: Prepare\_food  
Description: Prepare food  
Interaction Pattern:

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| http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/mixedstate.png Mixed |

My Task: Go to the food market and buy the food  
Time Critical Condition:   
Name of Other IC: Food market  
Message to Other IC: Order the food I need  
Other IC's Task: Get the food I ordered from storage   
Card 4of 5 (If necessary please use several IC cards to describe an IC)

IC Card

IC Name: Organize\_sports  
Description: Organize sports  
Interaction Pattern:

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| --- | --- | --- | --- | --- | --- |
| http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/empty.png | http://intranet.cs.pitt.edu/%7Echang/icms1/images/mixedstate.png Mixed |

My Task: Ask my friends to play games together  
Time Critical Condition:   
Name of Other IC: My friend  
Message to Other IC: Play games?  
Other IC's Task: accept or decline  
Card 5of 5 (If necessary please use several IC cards to describe an IC)

# Part 1: Patterns

**Divide and Conquer Pattern**: To organize a picnic, we first split it into multiple small tasks, such as schedule a picnic date, determine a picnic place and invite friends, and then solve each subtask. Once we solve all the subtasks, we finish the whole task.

**Partial Order Relationship**: Once we split the whole task into several small tasks, we need to which one we should accomplish first and which one we can accomplish later. The following figure shows partial order relationship among subtasks of the picnic organizing.

Schedule\_picnic\_date

Determine\_picnic\_place

Invite\_friends

Prepare\_food

Orgnize\_sports