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.pngMixed |

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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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.pngMixed |  | 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.pngMixed |

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.pngMixed |

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