Persistent Systems Limited, Pune

Job Scheduling in Networked Manufacturing Using Game Theory

Use Case Template

10/14/2011

v. 1.0

Approvals Signature Block

Project Responsibility	Signature	Date
Project Guide (Internal) *Prof. A. S. Shingare*		
Project Guide (External) *Mr. Jigar Shah*		
Documentation Leader		

Table of Contents

1. GENERAL INFORMATION

Informational Item	Information
Document Title	Use Case Template
Version	1.0
Author	
Project Name	Job Scheduling in Networked Manufacturing using Game Theory
Project Phase	Phase 1
Project Iteration	1

1.1 VERSION CONTROL

Date	Version	Description	Author
Oct-14-2011	1.0	Created	

1.2 INFORMATION DETAILS

Informational Item	Information
File Name	/home/prathamesh/Desktop/UseCaseTemplate .doc
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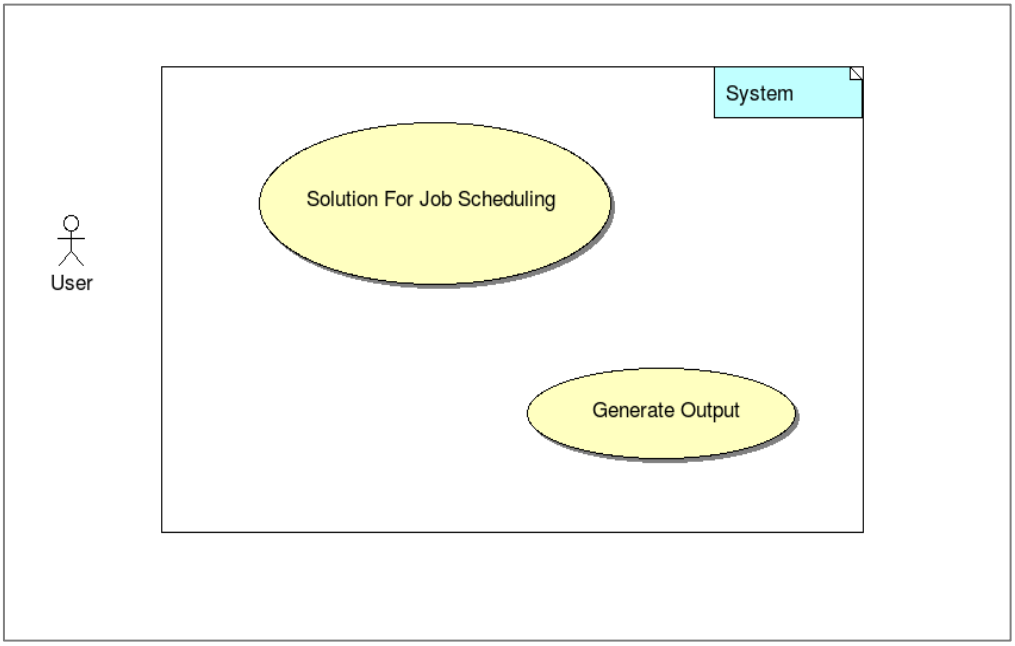
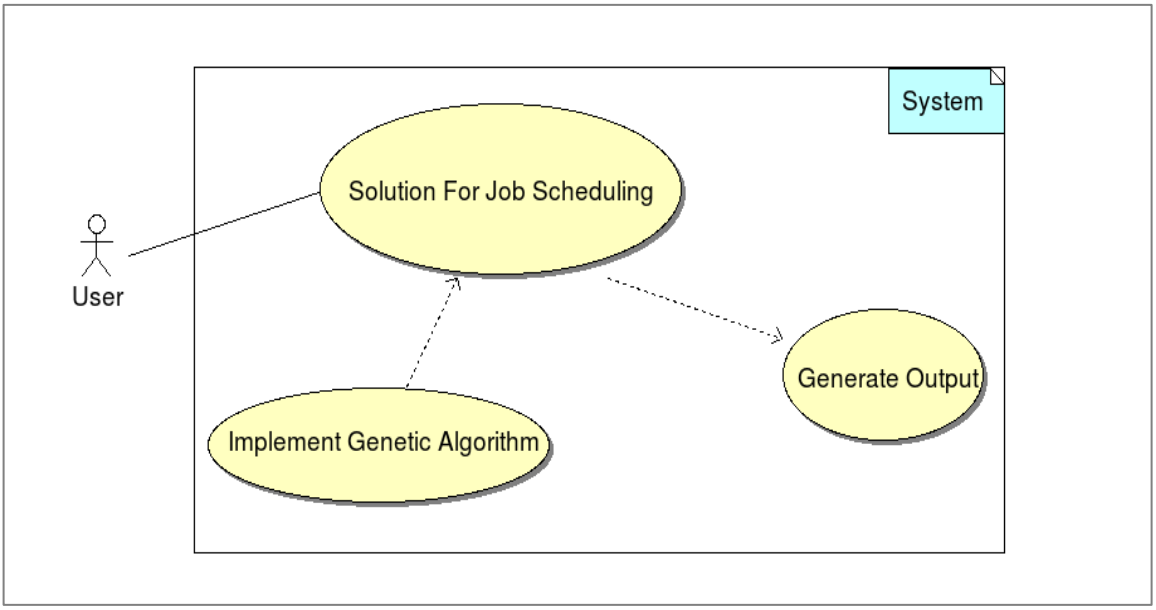
2. USE CASE TEMPLATE

USE CASE 1: Job Scheduling in Networked Manufacturing



Use Case 1	Job Scheduling in Networked Manufacturing	
Goal	Develop and implement a system for job sc	
Purpose	Develop algorithm for job scheduling in networked manufacturing using Genetic Algorithm on various platforms	
Preconditions		
Success Condition	Algorithm works successfully and output is delivered in optimal time	
Failed Condition	Algorithm fails under particular input case	
Post conditions	Output generated and displayed in screen	
Primary Actors	User	
Trigger	This use case will be initiated when user wants to get the solution for job scheduling in networked manufacturing	
DESCRIPTION	**Step**	**Basic Course of Action**
	1	Design algorithm
	2	Accept input about distributed jobs in networked manufacturing from user
	3	Execution of code
DESCRIPTION	**Step**	**Error Scenario**
	2	Negative input

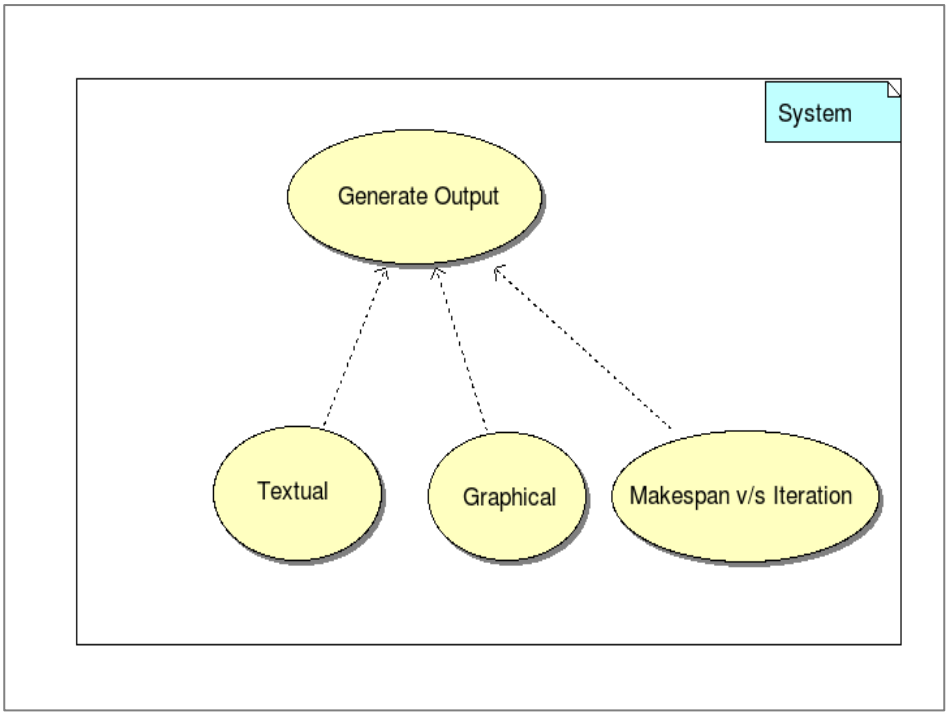
USE CASE 2: Genetic Algorithm



Use Case 2	Genetic Algorithm	
Goal	To Solve Job Scheduling using Genetic Algorithm	
Purpose	To implement job scheduling using genetic algorithm successfully	
Preconditions	Existence of algorithm	
Success Condition	Algorithm gives Success	
Failed Condition	Algorithm fails, unexpected output	
Post conditions	Output is successfully obtained	
Primary Actors	User	
Trigger	This use case will be initiated when user wants to get the solution for job scheduling in networked manufacturing	
DESCRIPTION	**Step**	**Basic Course of Action**
	1	Generate genetic algorithm parameters

	2	Execution of genetic algorithm to find optimal solution
DESCRIPTION	**Step**	**Error Scenario**
	2	Precision of output due to use of genetic algorithm

USE CASE 3: Generate Output



Use Case 3	**Generate Output**	
Goal	To display output	
Purpose	To display output in proposed format	
Preconditions	Solution obtained successfully from implementation	
Success Condition	Output displayed	
Failed Condition	Output is no displayed as expected	
Post conditions	Output will be generated and displayed on screen	
Primary Actors	User	
Trigger	This use case will be initiated when user wants to get the solution for job scheduling in networked manufacturing	
DESCRIPTION	**Step**	**Basic Course of Action**
	1	Accept output from implementation of algorithm

	2	Get textual output
	3	Get Graphical output
	4	Compare makespan v/s Iteration
DESCRIPTION	**Step**	**Error Scenario**
	1	Output not obtained from implementation
	2	Output not displayed in proposed format

3. USE CASE SPECIFIER LIST

3.1 USE CASE ID NAME

ID	Name
1	Job Scheduling in Networked Manufacturing
2	Genetic Algorithm
3	Generate Output

4. USE CASE DEFINITION LIST

4.1 ACTORS

Main actor is User who will use this implementation to solve job scheduling problem in networked manufacturing

4.2 TRIGGER

Use Case 1	This use case will be initiated when user wants to get the solution for job scheduling in networked manufacturing
Use Case 2	This use case will be initiated when user wants to get the solution for job scheduling in networked manufacturing
Use Case 3	This use case will be initiated when user wants to get the solution for job scheduling in networked manufacturing

4.3 PRECONDITIONS

Use Case 1	
Use Case 2	Existence of algorithm
Use Case 3	Solution obtained successfully from implementation

4.4 POST CONDITIONS

Use Case 1	Output generated and displayed in screen
Use Case 2	Output is successfully obtained
Use Case 3	Output will be generated and displayed on screen

4.5 NORMAL FLOW

Use case 1

- Design algorithm
- Accept input about distributed jobs in networked manufacturing from user
- Execution of code

Use case 2

- Generate genetic algorithm parameters
- Execution of genetic algorithm to find optimal solution

Use case 3

- Accept output from implementation of algorithm
- Get textual output
- Get Graphical output
- Compare makespan v/s Iteration

4.6 ALTERNATIVE FLOWS

4.7 INCLUDES

The **Use Case 3** - Generates output includes giving all 3 types output

- Textual
- Graphical
- Analytical

4.8 PRIORITY

Use Case	Priority
Job Scheduling in Networked Manufacturing	1
Genetic Algorithm	2
Generate Output	3