

Snack Vending Machine (SVM) Project
Use-Case Specification: UC001 Purchase Snack

Version 0.2

TRAINING
EXAMPLE #2

1. Goal

This use case describes the process for purchasing a snack from a Snack Vending Machine (SVM).

2. Actors

Actor Name	Description
Snack Customer	Any person who interacts with the Snack Vending Machine (SVM) for purposes of purchasing one or more snack products.

3. Pre-conditions

ID	Conditions that must exist prior to starting this Use Case
PRE1	None.

4. Flow of Events

4.1 Main Flow:

Step	Actor Action (User Requirement)	System Response (Functional Requirement)	Alternate / Exception Flow
1	The Snack Customer requests "Available Snack Products."	<u>M1.F1</u> The Snack Vending Machine (SVM) System shall present "Available Snack Products."	EXC1
2	The Snack Customer provides "Snack Payment."	<u>M2.F1</u> The SVM System validates "Snack Payment." <u>M2.F2</u> The SVM calculates "Snack Credit Amount." <u>M2.F3</u> The SVM System shall present "Snack Credit Amount Message" to Snack Customer.	EXC2
3	The Snack Customer provides "Snack Selection Information."	<u>M3.F1</u> The SVM System validates "Snack Selection Information." <u>M3.F2</u> The SVM shall subtract "Selected Snack Unit Cost" from "Snack Credit Amount" and store the difference as "Snack Credit Amount." (Snack Credit Amount is equal to zero.)	ALT1 EXC3 EXC4 EXC5 EXC6
4	The Snack Customer receives "Snack Selected." This use case ends.	<u>M4.F1</u> The SVM System shall present "Snack Selected" to Snack Customer.	

4.2 Alternative Flow(s):

ALT 1 –Snack Payment is more than cost of item selected

Step	Actor Action	System Response	Exception Flow
3	The Snack Customer provides "Snack Selection Information."	<u>M3.F1</u> The SVM System validates "Snack Selection Information." <u>M3.F2</u> The SVM shall subtract "Selected Snack Unit Cost" from "Snack Credit Amount" and store the difference as "Snack Credit Amount." <u>A1M3.F3</u> The SVM shall present "Snack Credit Amount Overage" to Snack Customer when "Snack Credit Amount" is greater than zero. Return to Main Flow step 4.	EXC7

4.3 Exception Flow(s):

EXC 1 –Snack Vending Machine (SVM) is “Non-Operational”

Step	Actor Action	System Response
1	The Snack Customer requests “Available Snack Products.”	<u>E1M1.F1</u> The Snack Vending Machine (SVM) System shall present “Temporarily Out-of-Service Message” to Snack Customer when the SVM is “non-operational.” (See Business Rule 114.) This use case ends.

EXC 2 –Invalid Snack Payment

Step	Actor Action	System Response
2	The Snack Customer provides “Snack Payment.”	<u>E2M2.F1</u> The Snack Vending Machine (SVM) System shall present “Snack Payment Invalid Message” when snack payment is not valid. (See Business Rule 88.) This use case ends.

EXC 3 –Customer Requests Refund

Step	Actor Action	System Response
3	The Snack Customer requests “Snack Payment Refund.”	<u>E3M3.F1</u> The Snack Vending Machine (SVM) System shall present “Snack Payment Refund” at any time prior to presenting a snack. This use case ends.

EXC 4 –Snack Payment is less than cost of item selected

Step	Actor Action	System Response
3	The Snack Customer provides “Snack Selection Information.”	<u>M3.F1</u> The SVM System validates “Snack Selection Information.” <u>M3.F2</u> The SVM shall subtract “Selected Snack Unit Cost” from “Snack Credit Amount” and store the difference as “Snack Credit Amount.” <u>E4M3.F3</u> The SVM shall present “Snack Credit Amount Underage Message” to Snack Customer when “Snack Credit Amount” is less than “Selected Snack Unit Cost.” <u>E4M3.F4</u> The SVM returns “Snack Payment” to Snack Customer. This use case ends.

EXC 5 –Invalid Snack Selection

Step	Actor Action	System Response
3	The Snack Customer provides “Snack Selection Information.”	<u>M3.F1</u> The SVM System validates “Snack Selection Information.” <u>E5M3.F5</u> The SVM shall present “Invalid Snack Selection Message” to Snack Customer when “Snack Selection Information” is invalid. (See Business Rule 57.) <u>E5M3.F6</u> The SVM returns “Snack Payment” to Snack Customer. This use case ends.

EXC 6 –Selected Snack is out of stock

Step	Actor Action	System Response
3	The Snack Customer provides “Snack Selection Information.”	<u>M3.F1</u> The SVM System validates “Snack Selection Information.” <u>E6M3.F8</u> The SVM shall present “Out of Stock Message” to Snack Customer when snack selected is not available. <u>E6M3.F9</u> The SVM returns “Snack Payment” to Snack Customer. This use case ends.

EXC 7 –Snack Vending Machine (SVM) is out of change money

Step	Actor Action	System Response
ALT 1-3	The Snack Customer provides "Snack Selection Information."	<p><u>M3.F1</u> The SVM System validates "Snack Selection Information."</p> <p><u>M3.F2</u> The SVM shall subtract "Selected Snack Unit Cost" from "Snack Credit Amount" and store the difference as "Snack Credit Amount."</p> <p><u>E7A1M3.F1</u> The Snack Vending Machine (SVM) System shall present "Out-of-Change Enter Exact Amount Message" to Snack Customer when "Snack Credit Amount Overage" is greater than "SVM Change Amount."</p> <p><u>E7A1M3.F29</u> The SVM returns "Snack Payment" to Snack Customer.</p> <p>This use case ends.</p>

5. Post-conditions

ID	Conditions that must exist after the Use Case regardless of scenario taken
PST1	None.

6. Validation History

Review Date	Overall Outcome	Supplier Outcome(s)	User Outcome(s)	Identified Issues	Issues Assigned To / Date

Revision History

Date	Version	Description	Author
09/20/2005	0.01	Drafted.	Requirements Producer
10/01/2005	0.10	Outlined. (Main Flow written, and Alternate and Exception Flows identified).	
10/15/2005	0.20	Detailed. (Alternate Flows written, Exception Flows written, Pre and Post-conditions written).	