

1. Brief introduction _/3

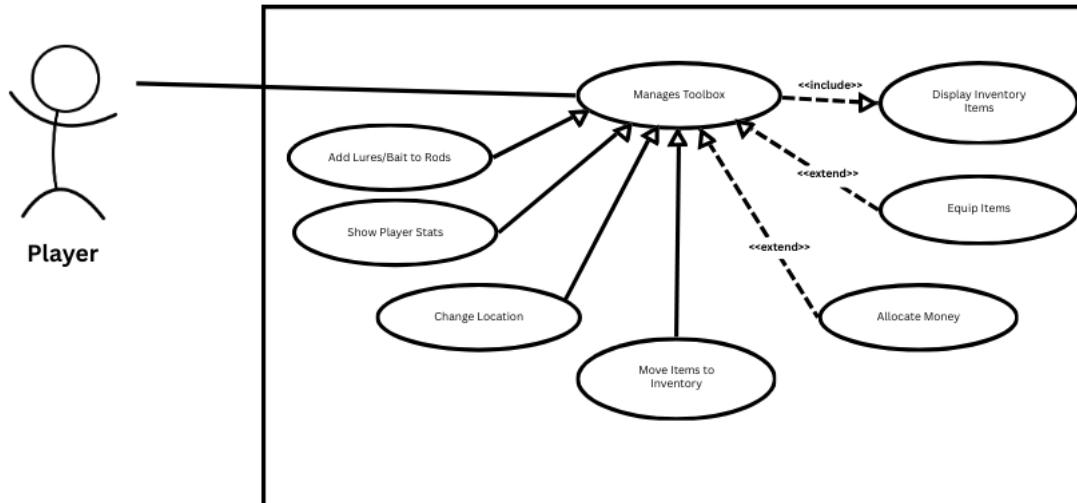
I am implementing the toolbox feature, complete with resource and inventory management. The toolbox will serve as a key interface for the user to view, organize, and interact with their items and statistics.

I will need to connect the toolbox to fishing rods, lures, bait, currency, and player stats. The inventory will allow the user to equip items, attach lures or bait to a rod, move items to their backpack, and manage their in-game currency by paying bills.

I will program and design the display for everything in the toolbox and make sure to connect it to in-game collectibles, the shop, and the storyline of the game. After implementation, the toolbox will serve as an interactive and integrated method of managing different resources.

2. Use case diagram with scenario _14

Use Case Diagrams



Scenarios

[You will need a scenario for each use case]

Name: Add Lures/Bait to Rods

Summary: The user uses one of the tools in the toolbox to add upgrades/additional items to their rods.

Actors: Game Player

Preconditions: Toolbox has been initialized. The user has unattached upgrades, bait, or lures available in inventory.

Basic sequence:

Step 1: Player opens toolbox.

Step 2: Display inventory items.

Step 3: Player selects item to attach/upgrade rod.

Step 4: Player drags item onto their desired rod to be upgraded.

Step 5: System verifies the rod is still eligible for upgrades/attachments.

Step 6: System attaches item to the rod and updates the rod stats.

Step 7: Inventory is updated to reflect merging of items.

Step 8: System provides an announcement to user that the rod was upgraded.

Exceptions:

Step 3: No item (lure, bait, special item, etc.) is available in inventory: System shows an error message and then returns to normal toolbox view.

Step 4: Player cancels attachment: System goes back to normal toolbox view mode.

Step 5: Selected item is incompatible with the rod: System shows an error message, doesn't allow attachment, then goes back to normal toolbox view mode..

Post conditions: Selected item is attached to rod. Inventory is updated to reflect the merging of the rod and item. Rod stats are updated, if it upgrades the rod itself.

Priority: 2*

ID: TB1

*The priorities are 1 = must have, 2 = essential, 3 = nice to have.

3. Data Flow diagram(s) from Level 0 to process description for your feature _____ 14

Diagram 0 (Context)

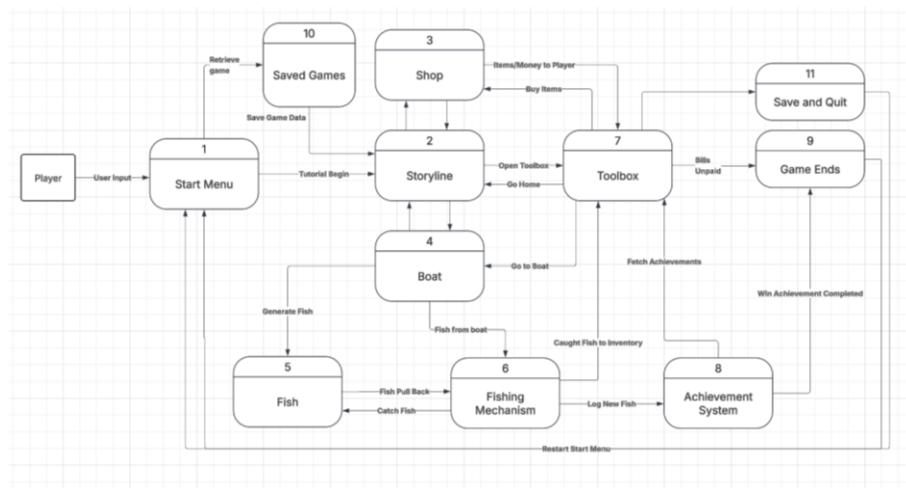
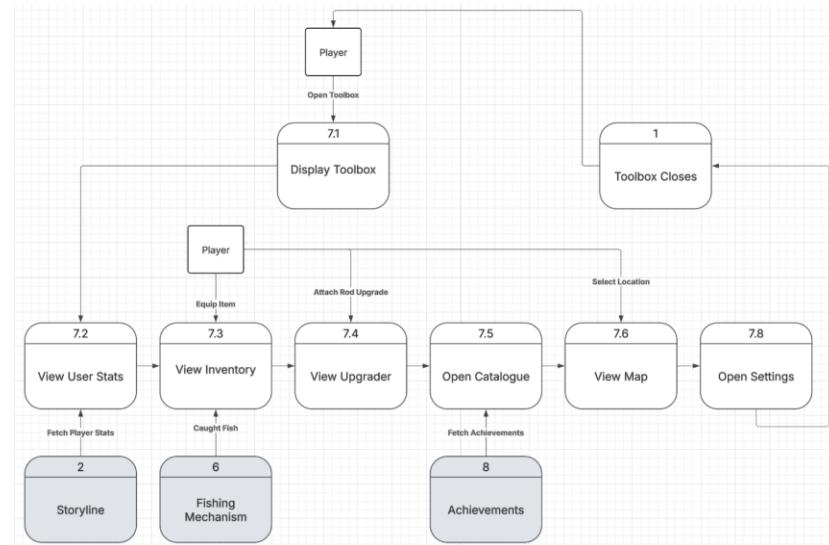


Diagram 7a (Toolbox):



Process Descriptions

BEGIN

Player opens Toolbox.
System displays available input actions.
System retrieves and displays current inventory items.

WHILE Toolbox is open

- IF Player selects **View Inventory**
 - Display items in inventory.
- IF Player selects **Add Lures/Bait onto Rod**
 - Check if lure/bait exists in inventory.
 - IF available
 - Attach lure/bait to rod.
 - Update inventory.
 - ELSE
 - Display "Item not available" message.
- IF Player selects **Equip Items**
 - Display equippable items.
 - Player selects item.
 - Equip selected item.
 - Update player stats if applicable.
- IF Player selects **Change Location**
 - Display all locations available to travel to.
 - Display travel time.
 - Change scene to selected location.
- IF Player selects **Move Items to Inventory**
 - Transfer selected item to inventory.
 - Update inventory display.
- IF Player selects **Show User Stats**
 - Retrieve current player stats.
 - Display stats to player.
- IF Player selects **Pay Bills / Allocate Money**
 - Display financial options.
 - Player chooses payment or allocation amount.
 - Validate available funds.
 - Deduct money and update balance.
 - Display updated balance.
- IF Player exits Toolbox
 - Close Toolbox interface.
 - Return to main gameplay screen.

END WHILE

END

4. Acceptance Tests _____ 9

Toolbox System

The toolbox feature will be run 1000 times using randomized player inventory and state inputs, logging each action's result to an output file. The output file will be analyzed with the following:

Specific Cases:

- Equip item test: Attempts to equip already equipped items don't duplicate the item.
- Attachment test: Attempts to attach incompatible items trigger an error message.
- Move item test: Attempts to move items in inventory/full inventory will show error message.
- Payment test: Attempts with insufficient money will show error message.
- Display/Stats test: All stats are displayed correctly.

General Cases:

- No tests result in failures
- Error messages have expected output

Example for divide feature

Statistic	Value	Pass Tests?	Notes
Equip unequipped item	Item equipped, removed from inventory	T	Normal case
Equip already equipped item	Item remains equipped	T	Boundary case — no duplication
Equip item with empty inventory	System shows "No items available"	T	Edge case
Attach available lure to rod	Lure attached, removed from inventory	T	Normal case
Attach incompatible lure	System error, no change	T	Boundary case
Attach lure with none in inventory	System shows "No lures available"	T	Edge case
Move equipped item to inventory	Item removed from equipment, added to inventory	T	Normal case
Move item already in inventory	No change	T	Boundary case
Move item with full inventory	System shows "Inventory Full"	T	Edge case
Pay bill with sufficient funds	Currency deducted correctly	T	Normal case

Statistic	Value	Pass Tests?	Notes
Pay bill with insufficient funds	System error, no currency change	T	Boundary case
Pay bill with zero balance	System error, no currency change	T	Edge case
Open toolbox	Inventory and stats displayed correctly	T	Normal case
Display empty inventory	Shows "Inventory Empty"	T	Boundary case
Display stats exceeding normal ranges	Stats display without error	T	Edge case

5. Timeline _____/10

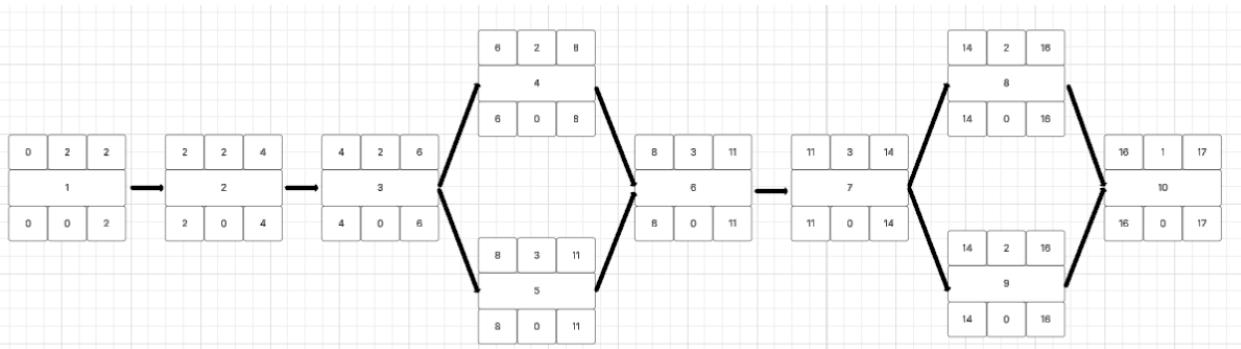
[Figure out the tasks required to complete your feature]

Example:

Work items

Task	Duration (Days)	Predecessor Task(s)
1. Requirements Collection	2	-
2. Toolbox Screen Design	2	1
3. Inventory and Stats Design	2	2
4. Programming: Inventory Display	2	3
5. Programming: Equip Items/Attachment	3	4
6. Programming: Move Items/Bill payment	3	4
7. Integration	2	5, 6
8. User Documentation	2	7
9. Testing	2	7
10. Installation	1	8,9

Pert diagram



Gantt timeline

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	1																			
2			1	2																
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