

**The Hunger Games Engine:
A User-Friendly Record of
Major Games Actions**

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**version 1.0.4
last revision 14.07.2013**

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Objective

The goal of this project was to provide an easy, user-friendly interface that calculates damage and keeps track of all major actions, including first aid, item gain, use, and loss, eating, drinking, and attacks, while accounting for training stations and current inventory. This is achieved by use of three different databases: a database of tributes, a database of non-combat actions, and a database of combat actions. Between the combat and non-combat databases, a shared index, known as the **action number**, is kept for display purposes.

Internal Structure

"Under the hood" of the Hunger Games Engine, there are three¹ databases: a **database of tributes**, a database of **non-combat actions**, and a database of **combat actions**. Between the combat and non-combat databases, a shared index, known as the **action number**, is kept for display purposes. When storing or displaying an action, the combat database is used for all combat actions, as well as initializing the Games, ending the current Games Day, and manually adding damage to a tribute (i.e. from a random event.) The non-combat database is used for all other stored actions.

When an action is submitted to the combat database, through the form located at **/submit.php**, a series of checks are run on the attack and the tributes in question, and the final damage done is altered accordingly. These checks are not inherently stored in the database, but are reflected in the damage score. For example, if the attacking tribute has taken the *blades* combat station and lands a high-damage attack with a sword, an additional 1 damage point will be added to the overall damage done, but the fact that the damage was altered will not be displayed in the output file, **/display.php**.

The aforementioned checks performed by **/main.php** (which receives input from **/submit.php**) are as follows:

- (1) Is the submitted password correct?
- (2) Do both the attacker and defender exist in the database?
- (3) Are both tributes alive?
- (4) Is the attack number valid, i.e., does it correspond with a recognized code?
- (5) Does the attacker have the weapon that the input code corresponds to?
- (6) a) Did the tribute newly light their weapon on fire?
 - ii) If so, does the tribute have tar?
 - iii) If so, does the tribute have flint, a match, or firemaking?
- b) Does the tribute already have fire?
- c) Is the fire extinguished on this turn?
- (7) What was the previous action number?
- (8) What is the current day?
- (9) What kind and how much damage was done by this attack?
- (10) Does the defending tribute have relevant armor?
- (11) Is it currently the Bloodbath? (i.e. Do training stations count?)
- (12) Do stations apply?
 - (a) If so, does the attacker have a station relevant to his/her weapon?
 - (b) Does the defender had the self-defense station?
- (13) Does the attack, in its current state, warrant Turn Delay?
- (14) What Turn Delay damage is added on this attack?
- (15) What is the final damage?
- (16) Is the defending tribute dead?

¹ Aside from the three primary databases, there is a database of attacks, which contains all attacks, along with their numerical and descriptive damages and the armor class they fall under. However, as this database is immutable, it will not be discussed at length here.

Internal Structure (con'd)

The internal structure of the other files for processing random events, **/res.php**, and for processing non-combat actions, **/nc.php**, are significantly less complex. The only major checks for random events are steps (1) - (3) as well as (15) and (16) from **/main.php**, detailed in the previous section. However, non-combat follows a slightly different structure for running checks. First, it determines which action is being processed (out of the 11 possible actions listed on the non-combat action submit form.) From there, it runs the checks that are specific to each action, to make sure that the action is appropriate to be carried out. For the sake of brevity, the specific checks will not be detailed here, but can instead be found under the corresponding section in the "User's Manual" portion of this document.

This concludes the summary of the Engine's hidden files, as well as the databases that contain the crucial information that makes the Engine function.

User's Manual

Combat Actions

file: /submit.php

Fill out the form with the following information:

Attacker ID: Tribute ID of the attacker, district number + gender, e.g., 6m or 12f.

Attack Code: The four- or five-digit code that corresponds to the attack, e.g. 5019.

Defender ID: Tribute ID of the defender, district number + gender, e.g., 4m or 8f.

New Fire?: Check this box if the attacker lit their weapon on fire for this attack. Do not check if the weapon has already been used for fire.

Fire Code: (optional) If the tribute is attacking with fire, add the 1-50 number that corresponds to their fire code.

Password: Enter the password to complete the action. Note that it is possible to paste (ctrl+v) the password into this field for convenience, which may be useful if you are handling a large number of inputs (for example, during the bloodbath).

The screenshot shows a web form with the following elements:

- Attacker ID:** A text input field.
- Attack Code:** A text input field.
- Defender ID:** A text input field.
- New Fire?:** A checkbox.
- Fire Code:** A text input field.
- Password:** A text input field.
- Submit:** A rounded rectangular button.

Notes: If New Fire is selected, the tribute's inventory will be scanned for a Jar of Tar and a firemaking item (if they lack the firemaking station.) When this input is processed, one Jar of Tar will be removed from the tribute's inventory, and, if their firemaking item happens to be matches, one match will be subtracted as well.

Error messages:

Message	Explanation and Troubleshooting
The password was incorrect.	The password was incorrect. Try again. Try typing the password in a non-starred-field, copying it, and pasting it into the password field. If the problem still isn't resolved, contact the Database Administrator (probably Cara/Aya)
Error: Tribute (ID) not in database.	The tribute isn't found in the database. Check to ensure that you entered the tribute's ID correctly. If the error persists, contact the Database Administrator.
Error: Tribute (ID) not alive.	The tribute's damage exceeds 40. Review damage log on / display.php for clarification. If there was an accidental input that rendered the tribute dead, contact the Database Administrator.
Error: Invalid attack code	The input attack code did not correspond an attack (or to a special action.) Check your input and try again.

Message	Explanation and Troubleshooting
Error: The weapon is not in (Tribute)'s inventory.	The weapon the tribute tried to attack with is not in the tribute's recorded inventory. Check your inputs. Check the tribute's inventory. Ensure that all weapons have their weapon class in parentheses (e.g. TRIDENT (SPEAR) rather than just TRIDENT) as the Engine will only be searching for weapon classes.
Error: Tribute cannot start fire. No tar.	The item "JAR OF TAR" is not in the tribute's inventory. Double check inventory. Ensure that any tar item is listed as "JAR OF TAR" rather than something to the effect of "Flask of Tar" or "Stein of Tar", etc.
Error: Tribute cannot start fire. No Firemaking station or item.	The tribute has not taken the firemaking station and does not have flint or matches. Double check inventory.
Error: HG not initialized. Insert Row 1 manually.	the Games have not been started by the Gamemaker and must be inputted directly into the database. Contact Database Administrator.
Could not connect to Hunger Games Engine	There was an error with the database connection. Try again. If it isn't resolved: 1. Scream. 2. Flail. 3. Contact the Database Administrator, who will then scream and flail.
MySQL Error	Contact Database Administrator.

Special Actions: Ending the Day*file: /submit.php*

Fill out the form with the following information:

Attacker ID: Your Gamemaker ID (GM1, GM2, etc)

Attack Code: 2

Defender ID: Your Gamemaker ID (GM1, GM2, etc)

New Fire, Fire Code: Leave these fields blank.

Password: The correct password.

The screenshot shows a web form with the following fields and controls:

- Attacker ID:** A text input field.
- Attack Code:** A text input field.
- Defender ID:** A text input field.
- New Fire?:** A checkbox.
- Fire Code:** A text input field.
- Password:** A text input field.
- Submit:** A rounded rectangular button.

Notes: This will advance the day and halve the damages of all living tributes. Dead tributes will not have their damage reduced (and will also not be resurrected.) Days for food and for water will both be decremented. If either hits zero, 10 damage will be added. each.

Error messages: See *Combat Actions*.

Special Actions: Ending the Bloodbath*file: /submit.php*

Fill out the form with the following information:

Attacker ID: Your Gamemaker ID (GM1, GM2, etc)

Attack Code: 3

Defender ID: Your Gamemaker ID (GM1, GM2, etc)

New Fire, Fire Code: Leave these fields blank.

Password: The correct password.

Notes: This will change the bloodbath from "on" to "off." The only difference between bloodbath and non-bloodbath is that combat stations are inactive during the bloodbath.

Error messages: See *Combat Actions*.

Non-Combat Actions

file: /noncombat_submit.php

Each Non-Combat Action is processed somewhat differently. Many actions call for both an acting tribute and a receiving tribute (i.e. the tribute affected by the acting tribute's action) and several also require items. This can get confusing at times, but will be clarified in the following sections.

Non-combat actions available to the gamemaker via the easy-to-use non-combat portal are as follows:

eating; drinking; first aid; applying bandages, needle and thread, or medicinal plants; fleeing fights; gaining, losing, exchanging, or stealing items. Below is a brief description of what each non-combat action does. A section on how to properly fill out the submission form for each item will follow.

The screenshot shows a web form with the following fields and a button:

- Acting Tribute ID:** A text input field.
- Action:** A dropdown menu with 'EATS' selected.
- (Optional) Receiving ID:** A text input field.
- Obtained Item:** A text input field.
- Lost/Stolen Item (or new fight number):** A text input field.
- Password:** A text input field.
- Submit:** A rounded rectangular button.

Action	What it Does (and Does Not Do)
EATS	Acting Tribute's "Days for Food" counter is set to 6. Does not remove any items from inventory.
DRINKS	Acting Tribute's "Days for Water" counter is set to 4. Does not remove any items from inventory.
FIRST AID	Provided the Acting Tribute has the First Aid station, the Receiving Tribute's damage is reduced by 3. If there is no Receiving Tribute, the Acting Tribute's damage is reduced by 3.
BANDAGES	Provided the Acting Tribute has Bandages in his/her inventory, the Receiving Tribute's damaged is reduced by either 0.5 or 1, depending on whether or not the Acting Tribute has First Aid. If there is no Receiving Tribute, bandages are applied to the Acting Tribute. 5 ft of bandages are then removed from the Acting Tribute's inventory.
NEEDLE AND THREAD	Provided the Acting Tribute has Needle and Thread in his/her inventory, the Receiving Tribute's damaged is reduced by either 2.5 or 5, depending on whether or not the Acting Tribute has First Aid. If there is no Receiving Tribute, needle and thread is applied to the Acting Tribute. 1 use of Needle and Thread are then removed from the Acting Tribute's inventory.

Action	What it Does (and Does Not Do)
MEDPLANTS	Provided the Acting Tribute has medicinal plants in his/her inventory, the Receiving Tribute's damaged is reduced by either 1 or 2, depending on whether or not the Acting Tribute has First Aid. If there is no Receiving Tribute, medicinal plants are applied to the Acting Tribute. The medicinal plants are then removed from the Acting Tribute's inventory.
LEAVES FIGHT	The Acting Tribute is considered removed from his/her current fight. All of the Acting Tribute's Turn Delay counters are reset.
OBTAINS ITEM	Provided there is room in the Acting Tribute's inventory, the Obtained Item is added.
LOSES ITEM	The Lost Item is removed from the Acting Tribute's inventory.
EXCHANGES ITEM	The Obtained Item is added to the Acting Tribute's inventory in the place of the Lost Item, which is then removed.
STEALS ITEM	The Lost/Stolen Item is removed from the Receiving Tribute's inventory and added to the inventory of the Acting Tribute.

Acting Tribute ID:

Action:

(Optional) Receiving ID:

Obtained Item:

Lost/Stolen Item (or new fight number):

Password:

✓ EATS

- DRINKS
- FIRST AID
- BANDAGES
- NEEDLE AND THREAD
- MEDPLANTS
- LEAVES FIGHT
- OBTAINS ITEM
- LOSES ITEM
- EXCHANGES ITEM
- STEALS ITEM

Non-Combat Actions: Eating

Inputs:

Acting Tribute ID: The tribute who is eating.

Action: EATS

Receiving ID: —

Obtained Item: —

Lost/Stolen Item: —

Password: As always, the password.

Effects:

- Acting Tribute's "Days for Food" counter is set to 6.

Errors:

None.

Non-Combat Actions: Drinking

Inputs:

Acting Tribute ID: The tribute who is drinking.

Action: DRINKS

Receiving ID: —

Obtained Item: —

Lost/Stolen Item: —

Password: The password.

Effects:

- Acting Tribute's "Days for Water" counter is set to 4.

Errors:

None.

Non-Combat Actions: First Aid

Inputs:

Acting Tribute ID: The tribute who is using first aid.

Action: FIRST AID

Receiving ID: (optional: tribute receiving the effects of first aid, if not acting tribute)

Obtained Item: —

Lost/Stolen Item: —

Password: The password.

Effects:

- Receiving Tribute's damage reduced by 3.
- If no Receiving Tribute exists, Acting Tribute's damage reduced by 3.

Errors:

Error: Tribute does not have First Aid. — The station "First Aid" is not in the database for the Acting Tribute.

Non-Combat Actions: Bandages

Inputs:

Acting Tribute ID: The tribute who is applying the bandages.

Action: BANDAGES

Receiving ID: (optional: tribute receiving the effects of bandages, if not acting tribute)

Obtained Item: —

Lost/Stolen Item: —

Password: The password.

Effects:

- Receiving Tribute's damage reduced by 0.5 or 1, depending on first aid station.
- If no Receiving Tribute exists, Acting Tribute's damage reduced.

Errors:

Error: Tribute does not have bandages. — The item "Bandages" is not in the Acting Tribute's inventory.

Non-Combat Actions: Needle and Thread

Inputs:

Acting Tribute ID: The tribute who is applying the needle and thread.

Action: NEEDLE AND THREAD

Receiving ID: (optional: tribute receiving the effects of needle and thread, if not acting tribute)

Obtained Item: —

Lost/Stolen Item: —

Password: The password.

Effects:

- Receiving Tribute's damage reduced by 2.5 or 5, depending on first aid station.
- If no Receiving Tribute exists, Acting Tribute's damage reduced.

Errors:

Error: Tribute does not have needle and thread. — The item "Needle and Thread" is not in the Acting Tribute's inventory.

Non-Combat Actions: Medicinal Plants

Inputs:

Acting Tribute ID: The tribute who is applying the medicinal plants.

Action: MEDPLANTS

Receiving ID: (optional: tribute receiving the effects of plants, if not acting tribute)

Obtained Item: —

Lost/Stolen Item: —

Password: The password.

Effects:

- Receiving Tribute's damage reduced by 1 or 2, depending on first aid station.
- If no Receiving Tribute exists, Acting Tribute's damage reduced.

Errors:

Error: Tribute does not have medicinal plants. — The item "Medicinal Plants" is not in the Acting Tribute's inventory.

Non-Combat Actions: Fleeing

Inputs:

Acting Tribute ID: The tribute who is fleeing.

Action: LEAVES FIGHT

Receiving ID: —

Obtained Item: —

Lost/Stolen Item: —

Password: The password.

Effects:

- Acting Tribute is counted as having left the current fight.
- All Turn Delay (TD) counters are set to 0.

Errors:

None.

Non-Combat Actions: Obtaining an Item

Inputs:

Acting Tribute ID: The tribute gaining the item.

Action: OBTAINS ITEM

Receiving ID: —

Obtained Item: The obtained item.

Lost/Stolen Item: —

Password: The password.

Effects:

- Obtained Item added to Acting Tribute's inventory.

Errors:

Error: Tribute already has 15 items. — The Acting Tribute's inventory is already full.

Non-Combat Actions: Losing an Item

Inputs:

Acting Tribute ID: The tribute losing the item.

Action: LOSES ITEM

Receiving ID: —

Obtained Item: —

Lost/Stolen Item: The item lost.

Password: The password.

Effects:

- The Lost Item is removed from the Acting Tribute's inventory.

Errors:

Error: Tribute does not have item (ITEM) — The item is not in the Acting Tribute's inventory.

Non-Combat Actions: Exchanging Items

Inputs:

Acting Tribute ID: The tribute swapping out items.

Action: DRINKS

Receiving ID: —

Obtained Item: The item gained.

Lost/Stolen Item: The item lost.

Password: The password.

Effects:

- Replaces the Lost Item with the Obtained Item in the Acting Tribute's inventory.

Errors:

Error: Tribute does not have item (ITEM) — The Lost Item is not in the Acting Tribute's inventory.

Non-Combat Actions: Item Theft

Inputs:

Acting Tribute ID: The tribute who is stealing the item.

Action: STEALS

Receiving ID: The tribute who is being stolen from.

Obtained Item: —

Lost/Stolen Item: The stolen item.

Password: The password.

Effects:

- The Stolen Item is removed from the Receiving Tribute's inventory and added to the Acting Tribute's inventory.

Errors:

Error: Tribute does not have item (ITEM) — The stolen item is not in the Receiving Tribute's inventory.

Error: Tribute already has 15 items. — The Acting Tribute's inventory is full.

Note:

If the Acting Tribute's inventory is full, the item will still have been removed from the Receiving Tribute's inventory.

Random Events and Manual Damage Adjustments

file: /resubmit.php

In the event it becomes necessary to adjust a tribute's damage in a manner that is not otherwise accounted for in the Games Engine, damage can be manually adjusted via the **/resubmit.php** portal. Note that this file is not named *'resubmit,'* as in *'to submit again,'* but rather RE Submit — a Random Event submission to the database.

Random event submission is excruciatingly easy, particularly when juxtaposed with the more complicated non-combat actions from the previous section.

RE Damage: Damage added to the Tribute's total damage. This can be a positive or negative number. If you wish to subtract 5 damage, for example, your input would be -5.

Defender ID: The ID of the tribute receiving this damage.

Password: As always, the appropriate password.

Notes: This will be displayed as "Random Event," regardless of event circumstance.

Errors:

Message	Explanation and Troubleshooting
The password was incorrect.	The password was incorrect. Try again. Try typing the password in a non-starred-field, copying it, and pasting it into the password field. If the problem still isn't resolved, contact the Database Administrator.
Error: Tribute RE not in database.	The tribute receiving the RE Damage was not found in the database. Contact Database Administrator.
Error: Tribute (ID) not in database.	The tribute isn't found in the database. Check to ensure that you entered the tribute's ID correctly. If the error persists, contact the Database Administrator.
Error: Tribute RE not alive.	The RE account's life-or-death status was somehow flipped to dead. Check with the Database Administrator.
Error: Tribute (ID) not alive.	The tribute's damage exceeds 40. Review damage log on / display.php for clarification. If there was an accidental input that rendered the tribute dead, contact the Database Administrator.
Error: HG not initialized. Insert Row 1 manually.	the Games have not been started by the Gamemaker and must be inputted directly into the database. Contact Database Administrator.

Message	Explanation and Troubleshooting
Could not connect to Hunger Games Engine	There was an error with the database connection. Try again. If it isn't resolved: 1. Scream. 2. Flail. 3. Contact the Database Administrator, who will then scream and flail.
MySQL Error	Contact Database Administrator.

Adding an Entry for Rulebreaks

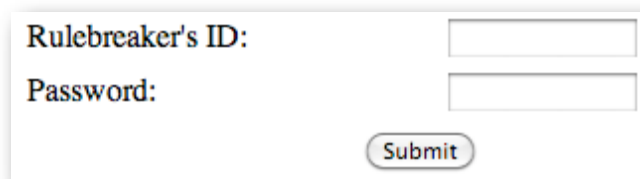
file: /rsubmit.php

For the sake of preventing confusion among users, a separate form, /**rsubmit.php**, has been created to insert rulebreak damage separate from random event damage. This happens to be even easier than random event submission, as the only necessary fields are the offending tribute's ID and the password.

RE Damage: Damage added to the Tribute's total damage. This can be a positive or negative number. If you wish to subtract 5 damage, for example, your input would be -5.

Defender ID: The ID of the tribute receiving this damage.

Password: As always, the appropriate password.

A screenshot of a web form titled "Rulebreak Submit". It features two input fields: "Rulebreaker's ID:" and "Password:". Below the "Password:" field is a "Submit" button. The form is enclosed in a light gray border with a subtle drop shadow.

Rulebreaker's ID:

Password:

Notes: This will be displayed as "Random Event," regardless of event circumstance.

Errors: *see Random Events and Manual Damage Adjustments, above.*

***** Note that the Rulebreak Submit has not yet been tested as of 14.07.2013**

User's Manual of Non-Logged Actions

To say that the actions found in this section are non-logged is not entirely correct, as the very nature of performing them mandates that they be stored in some database, in some manner; if they were not, they would have no effect on the Hunger Games Engine, and would therefore be entirely useless. However, as these actions are not assigned a combat number and are not displayed in an obvious manner on the primary output file, `/display.php`, there is some justification in making the distinction. The majority of these so-called non-logged actions fall under the category of 'housekeeping' actions, and primarily deal with altering the tribute database.

Adding a new Mutt

file: /add_mutt.php

Inputs:

Mutt Name: The name of the mutt (Essentially optional; if you are not interested in giving the mutt a unique name, it is best to give it an identification number, e.g. *hellhound 1*, for the sake of clarity.)

Mutt Species: The type of mutt, for example, *pitfall lizard*.

Mutt HP: Number of total damage the Mutt can take before death (compare to 40 damage in tributes.)

Weapon Classes 1-4: Which weapons' dice is the mutt allowed to use? For example, mutts with large incisors or claws typically attack with knives, mutts with powerful hooves might attack with blunt weapons, mutts with long horns might attack with sword, and mutts with long tails might attack with a whip. Mutts with more specialized weapons might have other weapon classes (e.g. the stegosaurus in the 60th Hunger Games used its spiked tail as a flail weapon.)

Password: Do you even know what a password is.

The screenshot shows a web form with the following fields and a submit button:

- Mutt Name:
- Mutt Species:
- Mutt HP (e.g. 40, 30, 25, etc):
- Weapon Class 1 (e.g. knife, blunt, sword, etc):
- Weapon Class 2 (optional):
- Weapon Class 3 (optional):
- Weapon Class 4 (optional):
- Password:
- Submit:

Errors:

Password incorrect — re-enter the password and try again.

MySQL Error — Try again, then contact Database Administrator.

Adding a new Tribute
 file: /add_tribute.php

Inputs:

1m - 12f: The tributes' first and last names.

Password: Do you know how to security?

Notes: Tributes will be added to the database with their food set to 5, their water set to 3, and their damage set to 0.

Errors:

Duplicate entry 'ID' for key2 — Something went wrong. Contact the Database Administrator.

Password incorrect — re-enter the password and try again.

MySQL Error — Try again, then contact Database Administrator.

1m:	<input type="text"/>
1f:	<input type="text"/>
2m:	<input type="text"/>
Inventory for:	<input type="text"/>
Item 1	<input type="text"/>
Item 2	<input type="text"/>
Item 3	<input type="text"/>
Item 4	<input type="text"/>
Item 5	<input type="text"/>
Item 6	<input type="text"/>
Item 7	<input type="text"/>
Item 8	<input type="text"/>
Item 9	<input type="text"/>
Item 10	<input type="text"/>
Item 11	<input type="text"/>
Item 12	<input type="text"/>
Item 13	<input type="text"/>
Item 14	<input type="text"/>
Item 15	<input type="text"/>
Update?:	<input type="checkbox"/>
Password	<input type="text"/>
<input type="button" value="Submit"/>	

12m:	<input type="text"/>
12f:	<input type="text"/>
Password:	<input type="text"/>
<input type="button" value="Submit"/>	

Inventory Updates and Alterations

file: /inventory_admin.php

Part I.

Inputs:

Inventory For: Input the ID of the tribute whose inventory you wish to modify, e.g. 5m. Additionally, you can view/edit the weapon classes that existing mutts can use by inputting their ID.

That's it. Now hit submit. Password is not necessary for Part I.

Part II.

The inventory should now be displayed.

Leave all the inputs as they are, with the exception of the item(s) you wish to change and the password. Hit submit. The list will appear to have reverted to its previous state; all of the changes you just made should appear to have been undone. Never fear! Hit submit one more time to view the changes that you made.

Contact

Any errors or further questions should be submitted to the author via private message at <http://hungergamesrpg.com/> (username: aya) or via email: dominate.earth@gmail.com

HG Engine developed by Cara McCormack, 2013

Hosted at <http://ripred.net/> for use by Hunger Games RPG.