

# Bug Fix and Feature Request List from Brood War Custom Map Community

---

## Map Maker's Wishlist from Stareddit.net

Even the smallest addition would bring huge returns in user generated content.

1. Dramatically Increase [Map Limits](#): Strings (text), Unit Sprites, Weapon Sprites, Unit Count, Location Count, Switch Count, Map Dimensions, Player Count, Player Color Variety, etc.
  - a. A more comprehensive list of map limits can be found here:  
[http://www.stareddit.net/wiki/index.php/Map\\_Limits](http://www.stareddit.net/wiki/index.php/Map_Limits)
  - b. If it creates lag, we can be the judge of that and simply not host those maps. Or better yet, allow map makers to set these restrictions themselves.
2. More Advanced Unit Data Manipulation and Triggers
  - a. We need a way to reference specific unit indexes (not just unit types), unit status, modify stats and issue complex orders (like casting a spell) via trigger.
  - b. This was briefly possible in the past via an "Extended Unit Death" (EUD) buffer overflow exploit, it was very exciting but eventually patched. Please see a list of specific triggers requested farther down below.
    - i. For example, EUD let us change the attack on a Marine to the Zerg Hydra spitting, give it HP regeneration, energy, shield, and give it the ability to cast psionic storm.
    - ii. EUD Data Examples: <http://farty1billion.dyndns.org/euddb/?pg=ref>
  - c. Increase Conditions and Actions Per Trigger Limits
    - i. Currently 16 and 64, respectively. >1000 would be adequate
3. More Advanced Numerical Data Manipulation and Structures
  - a. We need a way to store integer data and do arithmetic (addition, subtraction, multiplication, division) as well as copy and reference in triggering/scripting
    - i. Integer Variables, Arrays
  - b. Advanced Data Manipulation
    - i. Floating Numbers
    - ii. Random() function that returns a random integer within a range
    - iii. Math library functionality like sin, cos, tan, floor, ceil, powers, etc.
    - iv. Data Structures e.g. Stacks, Queues, Lists, Hashmaps, Priority Queues
4. Support for Map Coordinate Plane
  - a. Divide the map into a coordinate plane
  - b. Allow us to use Coordinates where a Location can be used.

- c. Allow us to detect unit, cursor, and location coordinates and do arithmetic with them.
      - i. E.g. this would allow us to move a location relative to another location or map coordinate, allowing for Grids
      - ii. With integer and array variables we could store and reference coordinates over time
    - d. Different shape locations e.g. Circle, Oval, Custom Shape
- 5. Ability to Modify "Trigger Cycle" Speed, i.e. how fast the engine runs through the trigger script, checking conditions and running events.
  - a. This is slow by default but can be sped up through hacky means ("[Hyper Triggers](#)"). Many custom maps depend on faster trigger cycles.
    - i. Several maps have already been broken in 1.18 due to inadvertent changes in Hyper Trigger behavior
  - b. E.g. Set Trigger Cycle to run each frame or every 2 frames
- 6. Allow Additional CPU-only Player Slots to run triggers (e.g. change alliance, spawn units) and carry out commands (e.g. Attack, Move, Hold Position)
  - a. Currently Players 9-12 have some limited trigger functionality, we would like this expanded.
  - b. For example, Players 9+ do not have game vision or unit sight and so cannot process commands like "Attack" or "Move".
  - c. Have pseudo-units like the Dark Swarm and Disruption Web be owned by the player that cast it, rather than always be player 12.
- 7. New Sound File types and Compression e.g. mp3, ogg
  - a. Ability to seek and play sound files via trigger
- 8. Improved Scripting and Logic
  - a. "IF" and "ELSE" logic when conditions are met or not met
  - b. "OR", "AND", "XOR", "NOT" and Parenthesis for conditional conjunctions
    - i. We are currently limited to "AND" and Negation.
  - c. "FOR" and "WHILE" Loops
    - i. Infinite Loops can be blocked by setting a maximum iteration and giving an error dialogue.
  - d. User Defined Functions
    - i. e.g. Assigning a Condition-Event set to a user defined variable and then calling this user defined function by trigger.
    - ii. This would allow recursion, so a maximum iteration should be defined.
  - e. Better Commenting
    - i. Programming-like comment syntax which allows code to be commented out (via hotkey ctrl+/) and annotated without string limits
- 9. Melee Map Specific Requests
  - a. QoL In the Map Editor:
    - i. Comprehensive List: <http://www.staredit.net/topic/17207/5/#116>
      - 1. Optional tile property overlays and pathing prediction tools are the most important and would save huge amounts of time in map debugging.
  - b. Preserve unit sprite 299 functionality (AKA the creep spawner).

- i. This is a unit which creates a ~20x20 area of permanent creep (and displays an exploding Overlord animation at game start). It is useful and several melee maps depend on it.
    - ii. Alternatively create something that takes its place
  - c. Native Ramp Tile Assets (and Blending Tiles)
    - i. Ramps that face up-left, up-right, up, down, left and right
    - ii. Ramps that look good when narrowed or expanded, width and length wise
    - iii. Melee maps depend on “tileset blends” that are workarounds for the above. Any support here is welcome, including additional “blending” tiles. See the following link for examples of tileset specific needs: <http://www.stareddit.net/topic/17207/5/#114>
      - 1. We recommend speaking with actual melee map makers to know what sort of tile art is needed.
  - d. Additional Heights of Terrain
  - e. Preserve and add doodads and tiles with special properties
    - i. We have some buildable but unwalkable doodad tiles, vision blocking but fully walkable doodad tiles, cover providing but fully walkable doodad tiles.
    - ii. Some doodads make the area they cover unbuildable. Some doodads do the reverse, they make unbuildable area buildable
    - iii. These are essential for many melee concepts – keep them. If anything, we need more of them and on every tileset and terrain level.
  - f. Specific New Tile Needs
    - i. Contact [Freakling@gmx.de](mailto:Freakling@gmx.de) an esteemed melee map maker for specific suggestions of needed tile additions and changes
- 10. Increase 8 Player Limit to 12-16 Players
  - a. Let’s match Modern RTS like WC3 and SC2
- 11. Increased Map Dimensions from 256x256 to 512x512 or 1024x1024
  - a. Without the ability to zoom or resize units, the SC1 map dimensions are restrictive.
- 12. Optional Modern RTS UI (For Custom Games Not Melee)
  - a. Optional Map Setting or Triggers that Enable Multiple Building Selection (MBS) and Unlimited Unit Selection.
    - i. SC:BW’s limit of 12 units is great for melee but restrictive for custom maps
  - b. Optional Map Setting or Triggers that Enable Multi-Command -
    - Multi-Command is a hotkey that selects all other units of the same type as currently selected.
      - i. For example, if you select one Zealot and one Dragoon and press the Multi-Command hotkey (e.g. tilde "~") all your Zealots and Dragoons will be selected and under your command. This applies to buildings.
      - ii. By default disable Multi-Command for worker class units to prevent big mistakes.
  - c. Optional Map Setting to Allow Zoom Out/In
    - i. Particularly for maps larger than 192x192

- d. Optional Map Setting to Auto-Rally Workers on Minerals
  - e. These are QOL improvements in every modern RTS including SC2.
    - i. They can be disabled in Melee, while benefitting casual players
    - ii. Custom map authors need to use hacky workarounds for similar functionality
    - iii. One of the primary motives for 3rd party hacks is to do this! Making it a feature will dissuade hacking.
13. Better Saved Games
- a. Ability to Take Any Player Slot in a Saved Game
    - i. Would allow for player substitution and replayable Saved Game Scenarios
    - ii. Don't require passwords for hosting Saved Games
  - b. Ability to Convert Replay to Saved Game
    - i. Imagine picking up a professional tournament game at a pivotal moment against your friend, or reliving your greatest custom game moments
  - c. Ability to Open/Modify Saved Game in Map Editor
    - i. Let's try that again slightly differently!
14. Better Text and Text Commands
- a. Ability to Spawn Floating Text at Locations or Relative to Player View Camera
    - i. This would allow for custom UI
  - b. Ability to Parse Text with Trigger Conditions for Text Commands
15. Ability to Play Mods as Custom Maps like SC2, specifically the ability to add new units, upgrades, spells or tilesets (custom GRP files).
- a. The SCBW engine is fantastic, people have spent years trying to recreate it, this would dispel the need
  - b. E.g. Ability to copy a unit and then modify it as a unique independent unit from the first, changing its stats and appearance.
  - c. Case in point:  
<https://www.youtube.com/watch?v=k4I72fCFohA&feature=youtu.be>

## Addendum: Requested New Trigger Types

16. Non-Comprehensive Trigger List
- a. Detect Key Presses (Pressed, Unpressed)
  - b. Detect Mouse Button Click (Left, Right, Middle, Double Click)
  - c. Detect Cursor Coordinates
  - d. Detect if Cursor is Inside a Location
  - e. Move Location to Cursor
  - f. Move Location to Map Coordinates
  - g. Move Location Relative to Another Location's Coordinates
  - h. Move Location Relative to a Specific Unit Index's Coordinates
  - i. Detect Unit Coordinates
  - j. Move Unit to Coordinates
  - k. Save Game, Load Game
    - i. Save with name set by map author

- ii. Save with name set by player
- I. Random() Style Function that returns a random integer within a range
- m. Comprehensive Unit Data Manipulation:
  - i. Modify HP, Max HP, and HP Regen Rate
  - ii. Modify Shield, Max Shield, and Shield Regen Rate
  - iii. Modify Energy, Max Energy, and Energy Regen Rate
  - iv. Modify Display Toggle for Max HP, Energy and Shield
    - 1. Currently, you cannot see current/max hp of a unit with max HP or shield over 9999. We would like to optionally see HP over any value in custom maps.
  - v. Modify Armor, Armor Upgrade Scaling, Shield Armor, Shield Armor Scaling
    - 1. Currently (Shield) Armor only goes up by 1, whereas weapon damage can go up by any valid integer
  - vi. Modify Unit Ground Weapon, Unit Air Weapon, Unit Max Hits for Ground, Unit Max Hit for Air
  - vii. Modify Weapon Damage, Weapon Bonus Damage per Upgrade, Weapon Upgrade Type, Weapon Damage Type (concussive, explosive, normal, ignoring armor), Weapon Cooldown, Weapon Range, Weapon Splash Radius (inner, middle, outer) , Weapon Target, Weapon Name
    - 1. Relevant data:
      - <http://farty1billion.dyndns.org/euddb/?pg=index&st=5>
    - 2. Examples:
      - a. Give a Marine the Hydra spit weapon
      - b. Change a weapon's damage type from Normal to Explosive
      - c. Change the Marine Gauss Rifle to be upgraded by Terran Vehicle Weapon Upgrades at the Terran Armory
  - viii. Modify Sub-Unit, Sub-Unit Capacity Limit (Carriers, Reavers), Sub-Unit Sprite
  - ix. Spell Damage, Spell Cooldown, Spell Range, Spell Area of Effect, Heal Rate, Shield Recharge Rate, Cloak Field (Range), Personal Cloak Cost
    - 1. e.g. Make Psionic Storm smaller in area, longer range, shorter in duration and more damage
  - x. Modify Unit Collision Box, Unit Air/Ground Type
    - 1. e.g. Make an Ultralisk's collision box as small as a zergling's and able to fly.
  - xi. Modify Animation Speeds e.g. for Spells, Units, Turning, Transformation, etc.
  - xii. Modify Unit Color, Unit Facing Direction, Unit Build Queue (Factories), Building Being Built (Workers), Unit Target (in case it is attacking something or moving towards something), Unit Current Move Speed, Unit Max Move Speed
  - xiii. Modify Build Times for Units, Buildings, Upgrades

- xiv. Enable/Disable Ability to Build Units, Upgrades, Buildings, and Modify Prerequisite Tech/Upgrades/Buildings
  - 1. This would enable custom tech trees
- xv. Modify Number of Remaining Pauses a Player Has
- xvi. Modification of Upgrades and Upgrade Scaling
  - 1. Set and Modify Upgrade Research Status by Trigger
  - 2. Set and Modify Upgrade Level by Trigger
  - 3. Maximum Upgrade Levels Greater than 255
    - a. e.g. 65536
  - 4. Different Armor Scaling for Different Units
    - a. Currently each armor upgrade only adds 1 armor, while weapon upgrades can add any valid integer damage
  - 5. Custom Upgrades
    - a. Allow us to create custom upgrades that can be researched at any building and can be detected to have effects like changing the weapon on a specific unit type or unit index.
- xvii. Modify Unit Sprite
  - 1. Assign a specific Marine unit the Templar Sprite instead of Marine sprite.
- xviii. Modify Sight Range, Detection Status, Cloak Status
- xix. Detect and Modify Spell Status (cooldown), Order Unit to Cast Spell at Location
  - 1. E.g. Remove cooldown on Psionic Storm and tell Templar to cast it at Location
    - a. Templar would move towards location and once in range issue spell cast
- xx. Detect and Modify Upgrade Status, Build Time, Build Cost, Build Unit Name, Unit Name
- xxi. Modify Building Burn Rate, Burnability, HP Regen Rate
- xxii. Modify and Rearrange Build Options, Add and Remove Spells
  - 1. E.g. Add Protoss Buildings to SCV and Rearrange the Build Option Page
  - 2. E.g. Give a Marine the ability to cast Psionic Storm and Cloak but Remove Stim Pack
- xxiii. Permanently Enable or Disable Protoss Buildings, regardless of Pylon Coverage with Different Area
- xxiv. Make Other Buildings Require Pylon Coverage or Give Pylon Power Coverage
- xxv. Modify what units a building can produce
  - 1. e.g. Protoss Gateway can build Mutalisks and Reavers
  - 2. Larva can produce a marine, dragoon
- xxvi. Modification of Supply, Supply Limits, and Unit Supply Cost
- xxvii. Toggle Ability for players to build buildings on top of each other (stacking)

1. Right now there is a hacky workaround where if you do not have vision of your own units and build in the middle of the fog of war you can do this, but this workaround is restrictive.
- xxviii. Toggle ability for units to move through other units
    1. similar to how workers can move through units when mining
  - xxix. Ability to move units and place buildings on any terrain, regardless of walkability
  - xxx. Modify Gas and Ore Gathering amounts or the worth of ore/gas from specific types of mineral patches/geysers
  - n. More Intuitive way to give/remove vision of area
    - i. e.g. it's difficult to reveal a specific region, you must use map revealers which are imprecise
  - o. Completely disallow players from attacking another player, not even by issuing manual Attack command
  - p. Improved Camera Scripting e.g. Panning to a location
    - i. This could be achieved by referencing arithmetic variables for the Camera's X/Y location instead of centering on a specific unit
    - ii. Camera Easing to a location would be welcome.
  - q. Ability to Modify All Counters Arithmetically e.g. Kill Counts, Death Counts.
    - i. And set them to a reference variable
  - r. Ability to Detect and Modify Kill Counts on Specific Unit Indexes
  - s. Ability to Detect, Issue and Disable Commands On Units e.g. Move, Attack, Hold Position, Burrow, Liftoff, Cast Spells, etc.
    - i. Detect if a unit is in attack mode and then disable its ability to attack
    - ii. Order a unit to cast a spell at Location X, it then moves towards location X until it is in range and casts the spell
    - iii. Lift off a building, burrow a zergling
  - t. Order a unit to move/attack toward a location *and continue in that direction*
  - u. Detect Units closest or furthest from a location, not just left to right on the map
  - v. Ability to "Lock" a Unit, Disallowing Attacking, Casting, or Issuing Any Other Kind of Order
  - w. Disallow (Toggle) Ability to Select of Unit
  - x. Detect and Modify Buff/Debuff Flags on Units e.g. Blind, Ensnare, Parasite, Defense Matrix, Cloak
    - i. We want to remove/add debuffs and buffs as needed
  - y. Detect and Modify Status Flags e.g. Cloak, Burrow, Liftoff, Air, Ground
    - i. We want to know if your building is lifted, your zergling is burrowed, or your ghost is cloaked
  - z. Spawn Animations at Location
    - i. e.g. Spawn Defense Matrix Animation at location X while flagging units as Ensnared.
  - aa. Detect Spell Casts by Unit and Player
  - bb. Cast Spells (without Unit) for a Player at a Location
  - cc. Modify Fog of War at Locations via Trigger
  - dd. Detect Units Selected by Player via Trigger
  - ee. Modify Game Speed (Frames Per Second)

- i. e.g. Modify milliseconds per frame or frames per second
  - ii. If necessary put lower and upper bounds e.g. 15fps and 120fps
- ff. Modify Trigger Cycle Speed (Frames Per Trigger Cycle)
- gg. Modify Game-Shading
- hh. Asynchronous Register of Unit Kill or Death
  - i. Currently a full trigger cycle must pass before a Unit Kill or Death is registered.
  - ii. Detection of which direction a unit is facing.
- jj. Modification of what units each building can produce.
- kk. Detection of when a unit is attacked and by what/who
- ll. Detection of when your unit is attacking
  - i. We mean during the attack animation, not the Attack command status
- mm. Detection/reference of which unit one of your units is attacking
- nn. Give access to unit ID's, so we can move locations on each individual unit of a certain type
  - i. For example, if a computer player has 20 zerglings and you want to move a location onto each one
- oo. Make it so that if your unit gets lost into the fog of war you do not lose selection of it.
- pp. Detect and Modify which units a player has selected
  - i. Including deselecting specific units or now allowing selection of specific units
- qq. Remove or Modify unit ranks like 'Captain', 'Lieutenant' or 'Overseer' which are on some units by default
- rr. Asynchronous Timers ("Non-Blocking Waits") that don't depend on trigger cycles or Game Speed
  - i. Each time a Wait trigger action is executed for one player any other trigger for the same player trying to execute a Wait action gets put on hold until the first wait ends. A non-blocking wait action would be able to run even if there is already some Wait in action.
- ss. Asynchronous Timer based on Frames (not milliseconds)
- tt. Define, Modify and Reference Groups of Players for Triggers, similar to Forces
  - i. Or let us define and modify Forces so we can move players between them
- uu. Modify the Walkability, Cover, Buildability, Vision-blocking of Tiles under a Location
- vv. Modify the Fog of War (Unrevealed, Revealed, Visible) Status of Tiles under a Location
- ww. (Condition that is the opposite of preserve trigger) - In order to execute again these conditions must be unmet at least once.
- xx. Set and Modify Control Group Hotkeys
  - i. e.g. Set Ctrl+1 to hero unit, set Ctrl+2 to building
- yy. Set and Modify Custom Hotkeys
  - i. e.g. Set "K" to cast a specific spell
- zz. Briefing Actions:

- i. Enable/Disable use of ESC to skip transmissions
  - ii. Show skip tutorial button
  - aaa. Damage Over Time at Location
  - bbb. Detect if Game is Online or Offline Single Player
  - ccc. Ability to Modify Latency Settings
  - ddd. Ability to Modify MiniMap Color State
- 

## Essential Bug Fixes:

- Nooks and Crannies Error:
  - This error plagues all map-makers, more so on larger maps (256x256). What triggers it is difficult to know without the source code, but basically if you have complex terrain, in which the terrain pathing algorithm (run at the beginning of the game) exceeds some arbitrary number of iterations/recursions, the game will throw this error. Simply increasing memory capacity and/or doubling this number would fix it for the majority of cases. Though if you wanted to increase map size (to say 512x512) then the Nooks and Crannies error would occur more frequently. So it's another kind of map restriction.
  - Possible Causes: <http://www.stareddit.net/topic/8581/0/>



- Miscellaneous quirks that should be reviewed and addressed individually:
  - [http://www.stareddit.net/wiki/index.php?title=Quirks\\_and\\_nuances](http://www.stareddit.net/wiki/index.php?title=Quirks_and_nuances)
- Faulty terrain flags, causing various exploitable map bugs and unexpected disadvantages for melee players.
  - <http://www.teamliquid.net/forum/brood-war/520625-patch-118-terrain-bug-documentation>
  - [https://docs.google.com/spreadsheets/d/1O1GkIAv9STVxGcTP7WiZn8p9bYGNIJ\\_cRJL44BOfyOw/edit#gid=0](https://docs.google.com/spreadsheets/d/1O1GkIAv9STVxGcTP7WiZn8p9bYGNIJ_cRJL44BOfyOw/edit#gid=0)
  - mostly concerns erroneous terrain levels, but other tile/mini-tile flag-related issues are included as well if they have bug characteristic
- Lifted Terran buildings have different speeds depending on if they were created via triggers (pre-lifted) or if they were constructed on ground and manually lifted.
- Optimize minimap scaling - Currently maps with longer dimension 96 or 192 will not stretch to optimally fill the minimap (i.e. leave grey bars on all four sides)
- Buildings/units sometimes come out injured, except they start out with 10% of the base HP, plus 1 frame of "repairing", plus the time it takes to build. In the case of the terran barracks, it will build in 1 frame and come out with  $.1 * 9999 + 10010/256 + 10010/256 = 1078.1$  HP.
  - <http://www.stareddit.net/wiki/index.php?title=Regeneration>
- Remove Unit trigger action does not affect Map Revealers. This needs to be fixed.
- If two players are allied, and triggers constantly set one of those players to allied, this disables you from attacking BOTH, but it should just disable you from attacking the one.

- Hallucinations are treated as the same unit as what it is a copy of. Change this so it is treated as a different unit.
- 

## Other Bug Fix and Request Lists We Support

- <http://www.teamliquid.net/forum/brood-war/520702-patch-118-scr-user-interface-aesthetic-and-features>
- <http://www.teamliquid.net/forum/brood-war/520632-118-problems-and-suggestions-wishlist>