

### Engine bug fixes:

- BlockPlayers class now collides with actors by default, making it actually able to block players.
- CloudZones no longer attempt to destroy spectators, ghosting players, or actors with bNoDelete or bStatic flags set to true.
- PressureZones and VacuumZones will now only trigger scream sounds on players with health, because dead men tell no tales.
- Triggers can no longer be activated by knocked out players, as players with 0 or less health are no longer considered relevant to the trigger.
- Fixed bad physics state network clients could end up in using the 'walk' command after flying or ghosting while on a server.
- Several accessed none fixes for the Pawn class.
- Pawn code no longer tries to switch to a pending weapon if the pending weapon is the weapon that is currently selected.
- Fixed first-person weapon drawing not accounting for player's FOV.
- Fixed bots finding armor pickups desirable when they have full armor of the same type.
- Fixed a few issues where inventory related variables were not being set correctly when dropping or throwing a weapon.
- Fixed an issue with weapons where HandlePickupQuery referred to the current weapon rather than the item being handled when picking a message type between the two.
- Fixed server logging not always working.
- Fixed font info reporting only the smallest font instead of the other sizes.
- Fixed a bug in spawn logic that sometimes prioritized spawns with players still on them. This should result in far less frequent spawnfrags.
- JumpTriggers no longer activate on dead, swimming or flying players, preventing you from entering bad physics states.
- Fixed incorrect bottom surface material number on the Triple Strike ammo mesh.
- Straightened out incorrect material numbers on all default weapon pickup meshes, fixing the resulting overlap when custom skins are put on the standard weapon meshes.
- You can now only own one speed and jump item each at a time, preventing issues where expiration of multiple overlapping speed or jump powerups would break player movement.
- Fixed some disruptive accessed nones in team scoreboards when they try to sort players with invalid team numbers.
- Spectators can no longer use the fly or ghost cheat, preventing bad physics states.
- Spectators now default to flying physics mode, have no health, are invisible and hidden to AI.
- Moved the TimeDemo information away from the side of the screen so it is not overlapped by UI.
- Fixed TimeDemo information rendering as translucent when players HUD's entered certain modes.
- The game will now discontinue any weapon zoom the leaving player may be using when leaving a match. This prevents players from loading into the game with incorrect field of view values.
- Spawn logic no longer considers spawns with teammates near them dangerous. Spawns with enemies near them are still considered less desirable by respawn logic.
- When players enter liquid zones there is no longer a noticeable delay before ViewFlash (screen-tint) effects take effect.
- Removed some buggy code that was correcting a few naming issues with a JumpCenter and JumpTrigger in the maps PM-Asteroid and SH-Asteroid and implemented the fixes in the levels themselves.
- Fixed several meshes that did not have visible skin textures in the mesh browser.
- Made detecting chest shots (hitting the target on the front of a player model) and head shots more accurate.
- Removed a ton of unnecessary dynamic loading code that caused unnecessary game-slowness.
- Fixed NavigationPointList potentially getting truncated at runtime and causing AI malfunctions.
- Fixed a couple of fonts with broken glyph borders that caused some characters to not be usable in those fonts.
- Fixed tilde (~) console not resetting draw properties, resulting in some weapons or other UI elements overwriting them (often leading to font and background color changes).
- TriggeredDeath actors now ignore cheat-flying players.
- Fixed combo box UI elements not closing when another UI element is clicked.
- Spectators are now immune to pain timers from zones with damage per second values.

- Players can no longer drop weapons without ammotypes (broken weapons).
- SavedMoves, firing states, and movement variables are now cleared and reset on death, so that there will not be any inappropriately carried over data. This was the cause of the "firing after respawn" bug.
- Fixed an issue where right strafing animations were never used, causing left strafing animations to always be used no matter what direction you were strafing.
- Normalized scaling on certain mesh imports such that they are scaled to 1.0 by default in engine. This prevents badly scaled particle maps used when certain items respawn.
- Fixed inconsistent use of "Now viewing from" strings and spacing in spectator client messages.
- Smoothed viewbobbing, stair, and crouch eye level movement.
- Fixed inconsistent code for invincible players and bots. Invincible players and bots no longer give bonus points to those who hit them, be head-stomped, or play any damage sounds, animations, and screenflashes.
- When collision of players are adjusted online in uncertain network cases, the pawn's collision radius is now properly factored in.
- ServerSetWeaponPriority command (used when changing the desired priority of your blasters) now sets the priority of any of the weapon specified located in your inventory.
- Adjusted team join strings to read like "Player is now on the Twister Team" instead of "Player is now on Twister".
- Added missing localized item name strings to several pickups.
- Movers no longer kill or damage invincible players.
- Fixed bots playing pain sounds when being hit by movers that don't hurt them.
- Armor items can now also absorb momentum from damage and the Electro Shield absorbs 30% by default.
- Players in God mode (due to the cheat) are now invulnerable to knockback.
- Using the Suicide cheat while in ghost (noclip) mode no longer breaks your collision on respawn.
- Fixed the standard white font having some broken characters.
- Fixed custom default weapons not always having infinite ammo.
- Fixed VacuumZones not ignoring ghosting players and killing them.
- Fixed ammos wanting to rotate like weapons when they have none-null physics.
- Fixed Amphibious command so it no longer breaks when you're already underwater / drowning when you use it.
- To prevent soft-locks, you can no longer use the KillAll command on the Actor class, Pawn class, your own class, and any subclass of the PlayerPawn class. Bot classes can still be used within these restrictions.
- Fixed some implementations of fatal fall damage that used absolute damage instead of directly calling the death functions.
- Fixed RockingSkyZoneInfo not working in online games on clients.
- Using Cheatview or ViewClass functionality now cancels any weapon zoom you are currently using, preventing viewing with zoomed FOV and zoomed crosshair visuals.
- Fixed a number of cases where the saved behindview value was being ignored when changing perspective during CheatView, reverting from viewing another perspective, and other perspective-shifting functionality.
- Players can no longer be telefragged by flying players, teammates, or if they are invincible.

#### Engine additions:

- Updated exe icon.
- Increased the maximum networking speed to a more modern value.
- Increased default memory cache size to 16 megabytes from 4.
- Added default, vanilla maplists to configuration files.
- Added new OpenGL and updated D3D video rendering devices. Several small fixes and features are implemented within, including detail texture support, better z-buffering and much more. We recommend using OpenGL for its enhanced graphical capabilities.
- Restored and remade RTM Logo.bmp/SetupLogo.bmp.
- The Ammo class now collides with actors by default.
- DDartAmmo, MegaJump and MegaSpeed classes now have an editor visible mesh.
- SHBalls now have editor visible skins.
- Added custom crosshair variables to weapon base class. Modders can now specify custom crosshair graphics and colors for weapons.
- RockingSkyZoneInfo now has customizable spin rate accessed via the RotationRate movement variables instead of having spin rates hard-coded.

- Added standardized fluid interactions to Projectile. All projectiles should now have basic support for water ripple spawning, and speed reduction when entering a fluid zone.
- CloudZones can now optionally ignore players that enter them, as well as the inventories of said players to create CloudZones that are purely visual, and don't act as player boundaries.
- DDartAmmos, SHBallGuns, and SHBalls can no longer be manually placed in maps via the editor as they are never required to be placed manually.
- Games can now perform the ModifyLogin function to modify variables associated with player logins.
- Games can now register DamageMutators and MessageMutators that can mutate variables associated with damage and messaging respectively.
- Games can now optionally prevent Point Lozenges from spawning, head-stomps from doing damage, and bonus points associated with scoring hits.
- Made improvements to mutator's ReplaceWith function including positional offset calculation and additional default properties that were not being transferred.
- Added additional handling functions to Mutator for damage modification, message mutation, login modification, endgame prevention, score modification, death prevention and more.
- Added low ammo version of Secret Shot icon for custom weapons that may need it.
- Added optional sound variable to JumpTriggers and Kickers so one does not need to pair them with additional triggers.
- Added a new co-op teleporter that has additional variables and code for handling networked teleportation.
- Renamed DamageType's Name variable to DamageName so it no longer conflicts with the Actor's variable Name.
- Added an AutoSave trigger for use in community-made singleplayer campaigns. It will save the game to the auto-save slot when triggered.
- Weapon class now transfers the value of infinite ammo mode to weapons spawned from it so infinite weapons can be added to maps if desired.
- NerfWeapon class now prevents ammo consumption if in infinite ammo mode by default.
- Projectiles fired from NerfWeapons are now owned by the NerfWeapon's owner by default. This can be overridden with code within custom weapons.
- Weapon's TraceFire function will now re-trace up to a preset amount of times if no actors or walls are hit, preventing most cases where the level may be too large to hit a distant target.
- Decorations now have default sounds for being pushed around.
- Lava, slime, tar, and nitrogen zones now all have appropriate zone entry and exit sound effects and visuals.
- Inventory items with protection type 'speed' or 'jump' are treated as custom Mega Speeds / Mega Jumps and are rendered on the HUD like so. Modders take note that this change is necessary for custom Megaspeed and Megajump pickups to work properly.
- When taking damage, players now detect the damage type variable and apply any effects associated with it. Modders may make their own damage types at will.
- Games can now enforce re-spawn timers with bForceRespawn.
- Added a default mutator that is always present in matches and handles the special built-in game variants Megaspeed, Hardcore, and Turbo.
- Raceflag pickups now have a flag icon for their in-editor icon.
- Decorative flags are now masked by default.
- Added a new class NerfZoneInfo that holds most ZoneInfos and has new properties for overriding SkyZones on a zone by zone basis.
- Added a SmokeGen class for making easy smoke effects.
- Added a HideCrosshair function to HUD that can be called by code or console command.
- Added lives variable to NerfIPlayer for gametypes that need them.
- Doubled the maximum maplist size to 64.
- Added a shuffle function to all maplists.
- Added a new class CloudZoneEmulator for adding CloudZone effects in difficult to zone areas.
- Changed enforced limitations on view bobbing and double dodge sensitivity to put more control of these values in player's hands.
- Behindview command can now accept 0, 1, or another number as arguments (0 is off, 1, is on, anything else is a toggle).
- You will now only die from fatal fall damage if you have less than 100% damage protection, meaning invulnerable

players can no longer be killed by fall damage.

- Added a new state 'Flying' where playerpawns can fly but are not invulnerable.
- ScaledSprites can now be hidden/unhidden via triggers to simulate light points or flares on changing light sources.
- bNoInventory flagged zones now only destroy inventory items with no owner (IE thrown items), while bStripInventory destroys only inventory items owned by a player (IE held items), using them both in conjunction removes both.
- Changed ElevatorTrigger behavior to allow triggering of actors other than elevator movers, and be activated by being triggered by other triggers (allowing advanced elevator logic control).
- Added a CanSwitch function to weapons that can return a bool controlling whether or not a gun can be switched to.
- Added the GiveWeapon function to GameInfo. It can be used to easily give a weapon to a player via game code.
- Rewrote the Arena mutator class to be more modular and user-friendly.
- Added the bHideScore variable to bots, bots with this variable set to true do not show up on the scoreboard (useful for singleplayer maps or pre-placed non-combat/decorative AIs).
- BehindView mode now travels across level loads preventing loss of view mode.
- GameInfos now have functions for deciding if a player's chosen spawn class is an appropriate choice for the gametype, and what to set it to if it is not.
- When picking a PlayerStart, games now prioritize dry PlayerStarts over ones in water rather than discounting them altogether (see Splish Splash mutator for why this is a good thing).
- Rewrote spawn picking code in team games to utilize the TeamNumber variable of PlayerStarts if you have bSpawnInTeamArea set to true for the GameType. Spawn logic should fall back onto non-team starts if team-numbered ones are not available.
- Added the ability to prevent weapon loss on death as a per gametype option. It is also available as a mutator, but now can be forced for custom gametypes where it makes sense to have a persistent inventory.
- Added the ability to override HUD mode in singleplayer type games per gametype. Competitive game HUDs are still selectable and the sequence remains unchanged.
- Added several new base classes that allow usage of new and improved native functions such as TraceTexture, FastTrace, extended actor spawning, and more.
- Added code to support default player meshes activating footstep sound functions.
- SpecialEvents now take the volume, radius, and pitch sound settings into account when playing a sound effect.
- Rearranged some of the default bindings for the function keys. F5 is now Quicksave, F6 changes HUD mode, and F8 Quickloads.
- Underwater "fog" is now a nice shade of blue rather than a murky grey.
- Added special code and classes for making custom Plaza levels.
- Added new render styles for actors including Add, Highlighted, and AlphaTexture.
- Added ReturnReplaceText function which returns the string after replacing the indicated substring.
- Scoring a Speedblast flag or a Ballblast ball can now be detected by mutators.
- Movers no longer crush inventory items that do not collide with the world geometry or are bNoDelete, fixing some issues where non-dropped items and invisible inventory items used for item data could be permanently destroyed.
- Added new variables to RacePoints that allow mappers to randomly send RaceBots on auxiliary paths, or stop them from accepting movers as in the correct keyframe until they've come to a stop.
- Mutators now can have an assigned menu which can be used to set configuration values for that mutator.
- Added cheat notification function calls that can be used by games to take action when cheats are used.
- Re-implemented WeaponLight class so it and any subclasses work as intended.
- Gave BotBait and Ballgenerators their own in-editor skins.
- Re-implemented defunct auto update function for ListFactories. On checking the multiplayer servers, the game will attempt to update the ListFactories automatically so users do not have to update their ini files manually. Note: this does not apply to servers yet. Server runners will still need to provide matching uplinks currently.
- All dedicated health items now subclass a base 'Health' class.
- Mega Jump and Mega Speed now subclass a MovementAffector class.
- Added medium and small variations of the white font.
- Redrew the tilde (~) console background image so text is easier to read.
- Updated WarpZoneInfo code to be more efficient with the values it changes when a player walks between two linked zones.
- Re-implemented removed right-click menu for server browser. Use it to direct connect, refresh servers, or add

servers to your favorites.

- Re-implemented removed favorite servers tab in server browser.
- Added post-teleportation code for pawns such that certain variables can be force-reset upon physics-interrupting teleportation.
- Revised default equipment spawning code to eliminate some inventory chain breaking bugs.
- Added messages for the use of the invisibility command.
- Summon command now positions the object summoned in front of you based on the object's collision radius.
- Updated VacuumZones and PressureZones to knockout players instead of applying damage to them.
- Added ladders.
- Mutators can now determine if a player should receive default weaponry.
- Added the extremely useful IsInvincible function which can be used to determine if a player is invincible, or optionally, immune to a single damage type.
- Your inventory is now notified when you take damage (for informational purposes). This is for pickups and weapons that should react to you taking damage, and is not intended for use as damage reduction.
- Added a bigger white font.
- Added messages for using the walk command from ghost and fly cheat states.
- Amphibious cheat now is a toggle command, complete with messages indicating the state of the cheat.
- Mappers can now specify fall damage reduction on a per-zone basis.
- Added new ToggledAmbientSound class for use for ambient sounds that turn on or off and may have "wind-ups" or "wind-downs".
- Added AimPoint class for easier identification of BallBlast bot scoring / aiming locations.
- Added volatile ammo support code to all ammo.
- Fixed PlayerReplicationInfo's spree variable not updating.
- Lessons now have a separate time delay setting for reminders.
- Decorations will now by default loop their AnimSequence at their AnimRate if their AnimSequence is valid.
- BotBait can now instruct bots to fire at triggers and decorations.
- CheatView, ViewSelf, and ViewClass functions now have an optional boolean for quiet functionality (no message about changing view will be sent). You can now use these functions as a standard in cases where a message would be inappropriate instead of having to extract bits of code from these functions.
- There is now a special kill message for when a player tries to exist in the same spot as another player (usually caused by a telefrag).
- Weapons with zoom modes can now start with a default enforced zoom minimum.

#### Art Asset Updates:

- Fixed distorted female statue face texture.
- Updated Frazier skin to have visible hair and to replace the ugly grey patch on his shirt.
- Fixed the untextured hair on Sam's skin texture.
- Updated Sam's and Frazier's ranking icons and PDA pics to match their actual appearance.
- Fixed visual oversights in plaza posters including visible crosshairs.
- Fixed masking issues on some textures in various default texture packs.
- Applied frame rate limits to various animating textures.
- Corrected mesh issue on male statue that was causing the plaque it held to be 1 sided and distorted.
- Created detail texture pack: Detail.utx.
- Added additional textures including color variations and missing texture joins to various texture packs.
- Added missing graphics for hourglass "wait" cursor.
- Fixed Sidewinder ammo showing 13 discs on its skin instead of the correct 10.
- Removed black line on Nerf Cannon ball ammo and projectile skins.
- Fixed inconsistent third person skin of Secret Shot. It now matches the first person skin more.
- Ballzooka balls and ammo have been color-corrected to resemble the actual orange used in Nerf products.
- All standard weapons that needed it now have left-handed skins that prevent any text on the blaster from showing up backwards.
  - Fixed a really hard to read text detail on the Ball Shooter skin.
- Ball and dart ammo given a separate skin for bottom surfaces. Mappers who wish to have their ammo pickups "thrown around" the map will no longer need to hide the ugly or incorrect bottom surfaces of these ammos.

- Gave the Pulsator bolo a new mesh. It is no longer a 2D-sprite.
- Fixed rocket projectiles to have a proper back hole on their skin, matching the ammo.
- Added missing minus sign to score fonts.
- Removed O'Malley monogram from Wes' uniform.

#### Gameplay bug fixes:

- Fixed players being able to move before start gun by ducking or jumping by adding a special pre-game state that all human players are put into by start guns.
- Fixed crosshair fading out with kill messages.
- Replaced default master servers with ones that are still running.
- Winky and mover targets no longer reward points if the match is over when they are shot.
- Winky and mover targets should now detect collision with any projectile or tracefire shot with a damage value greater than zero.
- Fixed PM-Training level loading the Amateur Ready Room with the wrong gametype upon completion.
- Corrected bot index code identifying both William and Riles as Ted.
- Corrected Todd's skin name.
- Corrected blank skin settings on all applicable Nerf players and bots.
- Bots now ignore touch and damage stimuli while waiting for the startgun, preventing them from starting early.
- Fixed a broken texture group in Logos.utx and culled the bad textures from the maps that used them.
- Crosshair color no longer tints the console window or its text.
- Corrected racebots not having a drowning sound effect.
- Players are no longer considered invincible unless they have both 100% damage reduction and reduced damage type 'all', allowing mods to make damage prevention pickups that protect from just one kind of damage.
- MegaSpeed, Hardcore and Turbo mode are now all handled by the default mutator class, preventing loss of mode-specific bonuses after respawns.
- PA sound messages referring to Mary and Georgie as being on the Barracuda team have been corrected.
- Bonus points are no longer scored on hits on invincible players or hits that do 0 or less damage.
- Corrected the team names shown on the scoreboard and HUD to be accurate to friendly names rather than in-engine specifications.
- Fixed a bug where the Champion pointblast match could be given a difficulty boost above the highest difficulty, causing out of bounds errors.
- Adjusted the timing on the Victory podium sequence so second place announcement is no longer cut off by third place announcement.
- You can no longer use the suicide command before the game has started, preventing early starts and spammed telefrags.
- Enforced a minimum frame rate on the ready room team videos to help minimize desynchronization from the associated sound triggers.
- Fixed an issue where fast weapon switching mode was not consistently implemented across all default weapons
- Whomper shock-waves no longer repeatedly affect the momentum of Inventory items, causing them to become positionally de-synced online.
- Fixed corrupt and noise-ridden sound effects 'liftmx3' and 'liftmx2' in GenSound.uax that often caused crashes in levels that used them.
- Fixed corrupt sound groups in the brcuda sound pack.
- Default weaponry is no longer given to spectating players.
- Respawn messages are no longer shown on the scoreboards of spectators.
- Fixed team games disallowing spectating from SpectatorCams on the basis that they are not on your team.
- PointPickups given to players on respawn no longer leave behind a small beacon of light revealing the location of spawn points. Dropped PointPickups however will still glow, as well as ones placed by map makers unless otherwise edited.
- Fixed some faulty code that caused strafe animations to not be played while strafing. Players no longer weirdly moonwalk while strafing.
- Added additional fixes to ensure there is only one chance to grab the gold flag, once it is tagged, no other players can tag it.
- Added some checks to ensure that players that cheat in a gold ball early do not lock up themselves or the gametype

into an unwinnable state. Players who shoot the gold ball in without the first six balls still receive points, but will no longer receive credit for scoring the gold ball.

- Gold balls that are cheated in before the gametype is ready to spawn a gold ball no longer respawn after being scored. They are removed from the game to prevent further bad or unwinnable states the gametype can get stuck in.
- When arming players at the start of a match, the weapon is spawned with the Player as the owner automatically set.
- If a guided disc is spawned without a guider it turns into a normal un-guided disc.
- Countdown clock now works online and is not butted against the exact top of your screen.
- Countdown clock no longer starts until the start gun has gone off (if one exists in the level).
- Moved score away from the edge of the screen to match standing.
- Removed code in Speedblast bots that was adjusting their collision height as a kludge for maps with some areas that had low ceilings. Bots will no longer look as if they are stuck in the ground, and fixes to these too small areas are implemented in the maps themselves.
- Fixed a bug in the scoreboard code that caused a mismatch between your player name and extended player name of the format "PlayerName(ContestantName)". The game will no longer lose track of your standing in the game, resulting in loss of the identification marker next to your icon.
- Fixed female bots playing only male taunts.
- Players can no longer fire or move once the game has ended. They are forced into the end game screen as soon as the game ends, preventing most "after the buzzer" cheating methods. Players must still admire the scoreboard for at least 4 seconds before they can skip to the next match with any key-press.
- Fixed a bug in the Victory trigger that caused the podium to be decorated in amateur textures for the Championship arena.
- Score sorting is now checked against a timestamp to prevent players with identical scores becoming out of order.
- Fixed a logic error that caused the Speedblast HUD to indicate you needed to go to flag 1 after getting flag 7.
- Players no longer float when they enter the endgame state, instead continuing to be affected by physics.
- VacuumZones, PressureZones, CloudZones, and CloudZoneEmulator now ignore players who are in the endgame state.
- Raceflag pickups no longer collide with world geometry unless they are in the falling physics state. This prevents them from being destroyed on encroachment.
- Your rank now factors into determining if the game should save your score. If you have a worse score than your high score, but a better rank, this new score will be saved. This will prevent situations where you can't better your rank due to an unbeatable highscore (usually caused by cheating in a match).
- Message of the day no longer shows on non-network games.
- Weapon affecting pickups now no longer deactivate visual effects prematurely if more than one type is picked up at a time.
- Weapon affecting pickups no longer attempt to stack bonuses from the same type of pickup.
- When recharging a rechargeable pickup, the game now play's the new pickup's pickup sound rather than the one of the pickup you already own.
- SHBalls' movement is now far more reliably reported in online games.
- Bots added to Speedblast games after the starting countdown has expired no longer wait for a countdown that will never happen.
- Replaced some code that would destroy Speedblast bots if they were taking too long to make progress in the race (usually due to bad pathing). The game will now log an error, and resapwn the bot.
- Knockout messages now show the score of the player you knocked out instead of your own score.
- Re-aligned the level info at the top of the scoreboard and hud so that they match up.
- Cheat-flying players no longer play hit sounds.
- Cheat-flying players can no longer have their weapons taken from them via bolo-stun.
- The spectate command now properly discards your inventory when used (including any Ballblast balls you may have had on you).
- Fixed issues with Cloudzones and TriggeredDeath actors destroying or otherwise respawning Ballblast balls incorrectly.
- Removed code that would delete SpeedBlast bots on occasion.
- Fixed font information not being sent for 3 of the HUD fonts.
- Fixed the intended scaling of the text for UT-style multi-kill messages.
- Messages no longer are sent or beep when they're blank.

- Scoreboards can now handle up to 64 players (32 being visible at a time) without crashing the game.
- Fixed a typo resulting in the restart state of a spectating player being set to "PlayerWaking" instead of "PlayerWalking".
- Synced death sound effect code between bots and players so both use the same death sounds.
- Fixed feign death variables not being reset in player replication when feign deaths end.
- Fixed difficulty being augmented once per bot in Champion arena instead of once.
- Fixed amateur opening sound sometimes playing in inappropriate ready rooms.
- Fixed the game traveling between levels unnecessarily when you first start the game.
- Fixed HUD drawing the infinity symbol in different places based on a weapon's max ammo property.
- Fixed human players counting as two members in team SpeedBlast and team BallBlast games. This caused incorrect team balancing.
- Fixed team balancing not considering the number of teams when calculating how many bot teammates should be added.
- Fixed a very spammy accessed none in NerfTeamHUD when drawing player ID info.
- Fixed an accessed none in NerfTeamHUD when checking if lives need to be rendered.
- Removed some log-spamming by WarBots declaring startup and startgun status.
- Fixed false assumptions of non-negative score and kill counts causing incorrect drawing offsets in HUDs and scoreboards.
- Updated scoreboard drawing code to be more efficient and reliable with correct drawing offsets.
- HUD no longer renders 11th as 11st, 12th as 12nd, and 13th as 13rd.

#### Gameplay additions:

- Added Suit Batteries +5 to the game. These batteries heal you for 5 health up to twice your standard default health.
- Added mega versions of the standard health pickups for use with custom non-vanilla content. These versions are capable of healing you for their respective normal amounts but up to twice your standard default health.
- Rewrote default crosshair rendering to depend on a player selected crosshair and color.
- All default weapons have custom crosshairs. Weapon-based crosshairs are optional and toggle-able via configuration menus.
- HUD now shrinks the font size of the score text for low window resolutions.
- HUD now has optional low health sound alert override variable.
- HUD renders ammo and weapon icons based on weapons' properties, not groups, to further support custom weaponry.
- HUD now renders the icon of the armor pickup with highest priority in your powerup bar.
- Rewrote first person weapon rendering so the damage doubler (and any custom classes) can create a shell around weapons rather than overwriting the skin (in first person only).
- Added some default damage type classes utilized by default projectiles and weapons.
- Implemented center handedness rendering to all default weapons. Center handedness is no longer the same as hidden handedness.
- Implemented third person recoil animations on all default guns that were missing it.
- Added default damage types to all default weapons.
- Added some new injury sounds to fill unused sound slots.
- Added a sound for stepping in shallow water.
- Added an underwater death sound.
- Added an optional message beep sound that can be configured on or off.
- Electro Shield now has a hit sound and visual effect.
- Added the ability to play semi-randomized taunt sounds with taunt keys.
- Improved the ability for players to feign death. It will still not fool bots.
- Item re-spawn visual effect now approximates the shape of the item it is re-spawning.
- Spree messages now utilize all messages as intended instead of only a select few.
- Re-implemented teleportation visual effect. This effect makes teleporting players look a bit more like they're materializing.
- Spawned Hyperstrike trails now take the visual properties of the Hyper Strike effect that created them. This prevents the first spawned trail node from looking different from the rest in custom weapons.
- HUD now draws team messages in appropriate team colors.



- HUD now draws team messages with region names in parenthesis to help with team locational awareness. Note that the mapmaker must implement zone names for this feature to work.
- HUD now checks ZoneInfos and LocationIDs based on an advanced logic to determine which one(s) you may be in, and what has highest priority.
- Changed UI team colors to be more appropriate.
- HUD renders lives below score in games that use lives.
- Team HUDs will now also render lives in gametypes that use them when placing the crosshair over a teammate.
- You can now start a map with a maximum of 64 total initial bots. Adding more bots is not advisable if you have a weak computer.
- Added BotRebalance functions, toggled with ini settings, that allow gametypes to automatically adjust bot counts for players that join or leave. This setting can be toggled for offline and online matches individually.
- Adjusted initial bot spawning logic to take into account career mode, current map-recommended bot settings, and team or non-team spawning.
- Team game modes now have code that changes the gender-specific sound effects of a player that is placed on a team without a player of the same gender as his or her selected character. This prevents males with female voices or vice-versa.
- All normal single player matches accessed from ready rooms now start in career mode, meaning they have special rules applied to them not applied to quick bot-matches (Can't set a frag limit, time limit is always 10 in gametypes that use time limits, etc...).
- When all the standard 28 bot names are in use, the game will randomize from a list of bot names before falling back on the "Bot#" naming convention.
- Restored code that played sound effects to players on spree messages and added cheering sounds for said sounds.
- Applied more accurate collision widths to all players.
- Victory podium is now only used in singleplayer career mode. It is no longer used in online or offline bot-matches.
- Behindview setting is now saved across lives.
- Added the AddTime command: adds or subtracts time (in minutes) from the clock in a match (AddTime <number>).
- Added the Smite command: causes a Whomper explosion at the selected pawn's location (smite <name>).
- Added the SmiteAll command: smites everyone but yourself (and team members if in a team game).
- Added the SetAdmin command: allows admins to set additional, temporary admins without giving out a password (SetAdmin <name>) NOTE: you must have logged in with your password, temporary admins cannot assign other temporary admins.
- Added the UnSetAdmin command: allows admins to take away admin abilities (UnSetAdmin <name>) NOTE: you must have logged in with your password, temporary admins cannot assign other temporary admins.
- Added the AllAdmin command: allows an admin to strip all admins (including or not including themselves) of admin rights or make everyone an admin (AllAdmin <true = all admins, false = no admins> <optional true = include self, false = exclude self, no value = exclude self>) NOTE: you must have logged in with your password, temporary admins cannot assign other temporary admins.
- Added the AdminSay command: allows admins to send messages to all players in centered blue text (AdminSay <message>).
- Added the AddBot command: allows admins to add an additional bot to play.
- Updated the AddBots command: allows admins to add multiple bots at once (AddBots <number of bots>).
- Added the PointLimit command: specifying a positive number afterwards will set the point limit to that value (if you are an admin), while specifying a negative number allows any players to see the current point limit.
- Added the BotBalance command: toggles on and off bot re-balancing mid-game.
- Added the BotReBalance command: re-balances the bots on demand.
- Added the Spectate command: allows you to turn into a spectator online manually.
- Added the AddAmmo command: gives all your currently owned guns maximum ammo based on the current MaxAmmo setting for each gun.
- Added the Rambo command: get infinite ammo for all your current guns.
- Added the Loaded command: specifying a number gives you that slot's default weapon, while no number or a 0 gives you all the default weapons (max ammo included).
- Changed the logic bots use to select taunts to include all taunt types instead of just two.
- Removed the bUnlit flag from several projectiles, they are now all affected by the level's lighting at least partially.
- Ball shooter now has animations and handedness settings.

- Ball shooter defaults to inventory group 0, and only changes to group 1 if you have one or more scavenger hunt balls in your inventory, meaning you cannot switch to it using the '1' hotkey unless you actually have balls to shoot.
- If you switch to the Ball Shooter with no balls it automatically switches to the next gun in line.
- The Ball Shooter now has a set autoswitch rating of -10; it will no longer consider itself the best weapon over the Secret Shot when it runs out of ammo.
- You can no longer use next or previous weapon commands/hotkeys to reach the Ball Shooter if you have no Scavenger Hunt balls in your inventory.
- RespawnPoints now use the same spawn effects as PlayerStarts.
- Added a sound effect for touching a flag (only triggers once and only if you touch the flag you currently need).
- Removed code that caused flag pickups to be untouchable if someone was already touching it. More than one person can now touch a flag at a time, which should result in less pile-ups (AI pile-ups especially) near flags.
- Added sound effects for Double Damage firing and draining.
- Added sound effects for the Mega Jump and MegaSpeed draining.
- A sound now plays when you step in Ballzooka goo.
- Non-team game scoreboards now render up to 32 players (up from 16) as will fit on screen.
- Bots no longer have a ping displayed in network games, preventing bots from looking like live players in the scoreboard.
- If there are more players than can fit on the non-team scoreboard, the last line shows how many more players there are not shown.
- Added arena mode mutators for all default guns.
- Added an assortment of default mutators.
- The next and previous weapon keybinds can be used by spectators to view spectator cameras in the level.
- Spectating players are now noted as such in scoreboards.
- Improved spectating to show name, health and lives (if applicable) when spectating other players.
- Multiplayer waiting time decreased to 10 seconds (from 25) so that a 10 second minimum announcement afterwards will bring the total wait time to roughly 20 seconds.
- If a level does not have a map-defined StartGun, the game adds one, preventing game start for ten seconds, and an additional 10 second player waiting period in online games only.
- Nerf HUD now has two special rendering modes which hide icons / rank / score, and icons / rank respectively. These modes are useful for community-created single player games.
- Speedblast games now support up to 8 RespawnPoints per flag, reducing spawn deaths.
- Raceflag pickups are now rendered as sprites in editor and invisible in game.
- Added an error message for visiting Speedblast flags out of order.
- Speedblast bots now receive a speed boost based on difficulty. Speedblast bots are already slow due to the way Speedblast handles pathing, so now they'll have a slight edge in Mega Nerf (requiring you to outsmart them), and no boost in Nerf Junieur. Also removed code from within RaceBots that was giving incorrect speed boosts based on difficulty.
- The gold ball in Ballblast now has a distinctive trail that spawns both when it flies through the air and when a player holding the gold ball (who has also scored all six of the other balls) moves.
- All NerfWeapon fire rates can now be scaled by the FiringSpeed variable.
- Added code to track the last player who damaged a player so some environmental kills can be claimed.
- Removed a built-in check that stops Speedblast maps from having and displaying point or time limits. They can now have point or time limits for special challenge reasons.
- Human players now also breathe heavily after a match has ended, like their bot counterparts.
- Added some variation in how fast players breathe at the end of a match.
- Human players now play warm-up animations while waiting for the starting gun to go off, like their bot counterparts.
- Added special Time Trial and Point Trial hidden modes to Deathmatch game for use in mutator challenges.
- When playing a match with a pointlimit, you now see the pointlimit next to your score. If the pointlimit requires a minimum amount of points (Point Trial mode) it will also render a plus sign.
- Score is now adjusted using two new functions (AddScore and SetScore). These functions allow score changes to be caught in GameInfo classes to be timestamped and even modified by mutators based on the situation.
- The view now switches to third person temporarily (unless the layer is dead) on game end on both online and offline games instead of just online ones.
- The header at the start of the match now fades out slower to allow you enough time to read it.

- The bar containing player scores below their respective icons in non-team HUDs will now expand to fit > 5 digits.
- Speedblast flags and ballblast balls can now trigger events when scored.
- Ballblast ball generators can now be enabled / disabled via triggering them. Disabled generators will not be chosen to spawn balls.
- Standardized all Speedblast flag pickups to have flag display properties. Mappers should now only need to use these updated pickups instead of also placing a decorative flag.
- Speedblast flags now have a built-in sound that they will play upon being touched for the first time.
- StartGuns' buzzer sound effect is no longer overridden by player footsteps.
- Mover\_Targets and Winky\_Targets now emit some subtle light when appropriate.
- Added specialized path logic to SpeedBlast maps to inform bots of alternate paths, how to spring traps, and what to do when traps are sprung in their path.
- Spawn code now compares up to 8 (up from 4) random starting points to help reduce players spawning on top of other players.
- Added Skill Tokens, hidden collectables that are found in vanilla (or custom career) maps.
- All weapon affecting pickups now sub-class a WeaponAffector parent to make handling multiple weapon affectors on one weapon smoother.
- All player protecting items now sub-class an Armor parent to make armor detection smoother for mutators.
- All player healing items now sub-class a Health parent to make health detection smoother for mutators.
- Added a special bonus event unlocked by beating the vanilla game.
- Both point and frag counts and limits can now be rendered separately on non-teamgame HUDs.
- Added a delay between PA announcements of what arenas are open so they do not constantly repeat.
- Ballblast levels now send a text notification when the gold ball enters play.
- Scoreboard no longer shows the name of the player's avatar in parentheses if the avatar and the player's chosen name are the same.
- Reduced the time required to respawn a Ballblast ball if it has not been found to one minute.
- Bonus matches are now shown on the scoreboards in the ready rooms.
- Spree messages no longer clog up the chat area.
- Added support for detecting and sending messages about headshots, chest stuns, guided disc kills, Whomper early detonations, and Nerf Cannon trap detonations.
- Spree and kill messages are now in a larger font.
- Weapon affecting powerups can now set an ambient sound when in use.
- Bonus matches now show up in readyroom scoreboards.
- Bonus matches are now included in calculations used to unlock other bonus matches.
- Chest stuns and headshot knockouts are now detected and have associated messages.
- Updated spree and knockout messages area with a larger, more readable font.
- Spree messages are no longer sent to the killfeed / chat area.
- Lowered the requirements for spree intervals.
- Set the maximum bot and player limits in the setup server and botmatch screens to 32 each.
- Added support for player-based weapon hand skins.
- Added support for voice pitch adjustment. All players now have slight variations in voice pitch based on mesh type.
- Players in plazas are now invincible, and have greatly increased underwater time.
- Adjusted timings so killing spree and special weapon messages now stay on the screen for 5 seconds rather than 3.
- Weapons / projectiles now detect when they hit sky zone surfaces, eliminating the need for most cloudzones.
- Bursts from the Scattershot now have some random rotation applied.
- The PDA no longer pops up when you boot the game unless you need to create a new character.
- Disabled quicksaving and quickloading in plazas.
- Your last played ready room is now remembered across game boots / sessions.
- Pointblast training is now a small point and time-limited match rather than a one kill event. You are also required to win in order to move on.
- Added cheat logging.
- Added support for double (or multiple) jumps and wall-jumps. The special jump animations are now used by players on wall-jumps or double jumps.
- Added a speed trails effect to players under the effect of Mega Speed pickups.
- Added a single rocket ammo pickup for use in maps.

- Mega Speed and Mega Jump powerups will no longer tint your screen if they are infinite (such as in certain mutators).
- Bots now find BallBlast balls more desirable and prioritize ones they have not yet scored.

#### Menu bug fixes:

- Added the missing required code cases to ensure already bound keys in control menus are removed if they are rebound to another function. This prevents keys from becoming bound to more than one function.
- Fixed a bug where the difficulty variable of servers was always set to -1 despite the difficulty selector saying otherwise.
- Setting server difficulty no longer changes the value of single player / botmatch difficulty.
- Numerous typos fixed within help messages in menus.
- News tab now directs to a non-defunct news source.
- Time limit options in a URL are now checked before falling back to a configuration value or menu option value.
- Fixed an issue where fullscreen was always highlighted in the video options regardless of whether you were running fullscreen or windowed mode.
- Video options menu will no longer ask if you want to keep a new resolution when only changing fullscreen mode.
- Fixed resolution confirmation window sometimes being created twice when switching resolutions.
- The exit event button no longer moves you if you are already in the plaza. Instead, it simply closes the menu.
- Creating a new player or new game now boots you to the Amateur ready room to prevent issues where players could get trapped in locked ready rooms or complete events out of order.
- Changing gamemodes in the botmatch or server setup screens now also loads that gamemode's bot settings to avoid issues where the entered bot settings look as though they were ignored.
- Unknown weapons can no longer cause breaks, blanks or accessed nones in the blaster priority list.
- Fixed multiplayer name and character not always saving properly.
- Fixed weapons stay mode not being saved or applied properly on server and botmatch menus.
- Fixed being able to enter invalid amounts of bots into setup botmatch and server menus.
- Fixed being able to host a server with a blank server name. Servers without names are now automatically named the default value.
- Fixed an issue where pressing escape would result in starting a botmatch.
- Fixed losing your multiplayer name and score (and possibly other items) when looking at your singleplayer stats screen during an online match.
- When you click the singleplayer button from inside the multiplayer menus, you default to the stats screen as was intended.
- Fixed blaster priority weapon model being too large to fit in the window in some cases.
- Fixed blaster priority weapon description box merging with the tooltip area.
- Fixed an issue in the blaster priority menu where the Scattershot and Nerf Cannon names would gain or lose spacing when clicked.
- Fixed being unable to play as Little Tree or Water Spirit due to spaces in their names causing the game to load non-existent player classes.
- Fixed an issue where the multiplayer screen does not actually disable the New Game button on the main PDA despite visually changing the button to a disabled graphic.
- Fixed cancelling the quit box not resetting the player data shown to singleplayer you if you tried to quit from the multiplayer tab.
- Fixed the video driver selection button having the wrong hover color.
- Fixed Secret Shot being spelled "SecretShot" in the blasters priority menu.

#### Menu additions:

- Improved the weapon descriptions in blaster priority menu.
- Multiplayer character selection now includes a 3D mesh viewer and a biography for each player.
- Added a misc controls tab for less-used controls usually found within custom content.
- Added view bob, dodge sensitivity, and fast weapon switch options to the other options menu.
- Added a gameplay options screen for message beep, crosshair settings, handedness, and more.
- Server setup menu now supports the loading of a maximum of 64 separate gametypes (up from 16).
- Added a setup botmatch screen so players can play offline matches easily.

- Implemented difficulty selection in server setup menu so one can pick the game difficulty of the server (affects mainly bot AI and healing, as well as some gametype and mutator settings).
- Clarified several help messages related to UI buttons.
- Added mutators windows for both botmatch and server setup. Botmatch and server mutator settings are saved separately.
- Gametype selectors will now read and find gametypes in any system .u file, not just NerfI.u. This means custom gametypes can now be loaded outside of default files.
- Added a new maplists editing menu. Allows for the changing of the maplists (or map rotations) without editing text files. This menu will enforce the maximum of 64 maps per maplist.
- Both Maplist and Botmatch menus can now be re-ordered via dragging the included items list, and items can be dragged in and out of included and excluded items lists.
- When changing your resolution, the game will now ask if you wish to keep the new settings, or revert them (reverts automatically after ten seconds of no selection).
- Added an additional check to temporarily prevent players from quitting the game while zoomed. The game will un-zoom the player before resuming the quit process.
- Team games can now parse optional GoalTeamScore setting via URL modifier (?GoalTeamScore=4000).
- The exit event button now sends you to the ready room of the event you exited from (if applicable).
- When you create a new game you are now also prompted for difficulty.
- Added an about page for display of third-party software licenses.
- Re-added support for a gamepassword pop up message box.
- Added mouse smoothing options to Controls - Other tab.
- Replaced extra hyphen with a space when naming bonus maps in the maplist menu and map selectors.
- Added CPU tags before bot names on the scoreboard in multiplayer matches.
- Message of the day fades out a little slower to allow easier reading of longer messages.
- Updated / added description tooltips for the singleplayer / multiplayer toggle button.
- Updated all links in blaster priority weapon descriptions.
- Added arrow key selection functionality to lists and comboboxes such as the arena selector and mutator and maplist setup screens. Arrow keys allow you to move up and down through these lists one item at a time.
- Added mousewheel scrolling functionality to any windows with scrollbars.
- Added enter key functionality to lists and comboboxes such as the arena selector and mutator and maplist setup screens. Pressing enter will be functionally identical to clicking or doubleclicking the item.
- Added name-seeking functionality to lists and comboboxes such as the arena selector and mutator and maplist setup screens. Pressing an alpha-numeric key will take you to the first instance of an item starting with that letter or number if it exists.
- Added pageup / page down functionality to lists and comboboxes such as the arena selector and mutator and maplist setup screens. Pressing page up and page down will take you to the top and bottom of said lists respectively.
- Implemented a slightly wider PDA to allow room for more tabs.
- Added a "Retry Event" button to the main PDA for easily restarting single player matches or mutator challenges.
- Re-organized options menu into additional tabs (Video, Audio, and Interface).
- Modified dropdown menu items' default color to look like other "active" items.
- Dropdown boxes can now be disabled.
- Added selection buttons to certain small dropdown items.
- Gamemodes in the maplist, server, and botmatch menus are now sorted by name.
- Adjusted the naming conventions of bonus maps from hard-coded roman numerals 1 through 10 to supporting the numbers used in the map filename prefix. For example: PMX24-Luna becomes "Luna Bonus 24".
- Map friendly name is now pulled from the map file itself, or failing that, falls back on the default filename conventions.

#### Weapon bug fixes:

- Fixed various spelling, grammar and inconsistent names in weapon and ammo strings.
- Fixed incorrectly imported Secret Shot pickup mesh. The mesh was rotated and scaled incorrectly.
- Moved dart ammo model's origin to the center of the model, fixing placement issues. Note that maps made before this change or with other versions of the game may need to perform positional adjustments to this type of ammo.
- Fixed incorrect pickup view mesh size on Secret Shot.

- Updated the Scattershot ammo icon to reflect actual visual design of the ammo.
- Removed extra animation frame from Whomper projectile that was causing subtle visual stutter.
- Fixed incorrect collision sizes on various ammos.
- Revised firing offsets on all default weapons to be more accurate to the weapon's barrel position in first person.
- Fixed Secret Shot's infinite ammo bar visually depleting when fired.
- Fixed Hyper Strike scope acting sticky when alt fire is held down.
- Fixed Hyper Strike having two distinct Fire functions, one while trigger pressed and one while trigger held.
- Fixed Hyper Strike playing its idle animation after every shot, rather than randomly.
- Bots will now use Pulsator alternate fire mode when appropriate instead of ignoring it.
- Bolos can no longer stun teammates and knock away their weapons.
- Nerf Cannon now detonates any owned alt fire balls on switch away and on weapon drop. This prevents alt fire balls from becoming orphaned and un-usable.
- Fixed transparency issues on bolo hit effect texture, Sidewinder disc explosion texture, and Triple Strike rocket smoke texture.
- If Ballzooka goo is unexpectedly destroyed it no longer permanently traps any players stuck to it.
- Ballzooka goo no longer affects flying or swimming players.
- Ballzooka goo can now only trap one player at a time, preventing further situations where players could become stuck forever.
- Ballzooka goo will no longer be destroyed due to expiration of lifespan if a player is still trapped on it.
- Fixed bottom two Triple Strike rockets having incorrect rotation values when alt fired, causing them to cross.
- Sidewinder no longer allows weapon dropping or switching during disc guidance.
- Sidewinder now checks for remaining clip and reloads when appropriate rather than at random intervals.
- Sidewinder locking logic has been rewritten to be less buggy and more player-friendly.
- Guided Sidewinder discs no longer cause as much hang between exploding and being able to fire again.
- Sidewinder lock is now properly lost when switching weapons or dropping the weapon.
- Sidewinder now loads as full of a clip as it can on pickup rather than assuming it will have enough ammo to fill a clip.
- Sidewinder now checks when it is brought up if it needs to be reloaded and plays the reload animation if so filling the clip as much as possible.
- Nerf Cannon will no longer attempt to detonate detballs that do not exist.
- Nerf Cannon no longer attempts to use ammo to enter the alt-firing state, rather checking once it is in the alt-firing state, preventing cases where ammo could be consumed without proper reason after detonating a detball.
- Nerf Cannon det balls now send their destroyed status back to the Nerf Cannon that created them when destroyed, ensuring they cannot be detonated twice in a row.
- During the alt-firing state, the Nerf Cannon can no longer be fired, alt-fired, put away or dropped, preventing it from getting stuck in certain bad states.
- Scattershot now loads as full of a clip as it can on pickup rather than assuming it will have enough ammo to fill a clip.
- Scattershot now checks when it is brought up if it needs to be reloaded and plays the reload animation if so, filling the clip as much as possible.
- Triple Strike now loads as full of a clip as it can on pickup rather than assuming it will have enough ammo to fill a clip.
- Triple Strike now checks when it is brought up if it needs to be reloaded and plays the reload animation if so filling the clip as much as possible.
- Triple Strike can no longer jam due to trying to fire a rocket while none are loaded. The reload animation will be played if any ammo is picked up between running out of ammo and the game deciding whether or not to switch weapons based on ammo reserve.
- Upon firing your last loaded rocket, the Triple Strike no longer assumes it has three more rockets in ammo reserves, and does the math instead.
- You no longer collide with darts stuck to walls.
- Fixed inconsistent collision code in Secret Shot alternate fire darts.
- Sidewinder discs now seek correctly and smoothly online.
- Sidewinder discs now show explosion effects online.
- Fixed Triple Strike not playing most of its animations online.

- Target identification in the guided Sidewinder discs is now much more positionally accurate.
- Target identification in the guided Sidewinder discs no longer shows data on knocked out players.
- Darts now show explosion effects when hitting a wall or actor online.
- Darts are now properly destroyed on client views when hitting an actor online.
- Whomper projectiles no longer spawn two shockwaves online.
- Whomper no longer spawns two visual muzzle effects online.
- Nerf Cannon balls are no longer immune to damage from certain projectiles online.
- Fixed Pulsator alt fire not being flagged as instant hit, causing some code to overlook it as a firing mode.
- Fixed FiringSpeed variable not working in online games.
- Fixed goo jiggle animation playing way too quickly.
- Fixed an accessed none error in Triple Strike rockets.
- Fixed mixed up firing offsets of the Wildfire, Triple Strike, and Secret Shot.
- Fixed goo projectiles being able to hit flying and dead players.
- Fixed bots being able to escape goo early by dodging.
  - Ballblast balls can no longer be picked up before the game has started, preventing the ball from entering a state where it is picked up but you are unable to switch to the launcher.
- Fixed Triple Strike not properly tweening to the still state after pumping after an alternate fire shot.
- Fixed Sidewinder discs and goo being destructible projectiles.
- Moved the third person recoil animation of the Whomper to the appropriate timing.
- Fixed an accessed none in the Sidewinder when checking for lockable targets.
- Fixed Sidewinder drawing locked on target names offset from the center of the target.
- Fixed an accessed none in SHBallGun when detecting if the gun has no ammo and should be skipped over.
- Fixed singular ball pickups incorrectly reporting their maximum ammo to be 30 instead of 60.
- Hyper Strike can no longer be zoomed if you are viewing from another actor instead of your own perspective.

#### Weapon additions:

- Gave the Whomper explosion its own animating texture matching that of the projectile.
- Added a sound for the Nerf Cannon's sight flipping.
- Nerf Cannon now has a distinct animation and sound for detonating a det ball.
- Added a sound for the Triple Strike's pumping animation.
- Added a sound for the Sidewinder's fork disengaging.
- When you are guiding a Sidewinder alternate fire disc, there is now a distinct graphical border around the screen to alert you of the fact that you are no longer in the viewpoint of your character.
- Sidewinder now has sound effects for gaining and losing lock.
- Added sound effects for balls bouncing.
- Nerf Cannon no longer switches away if you have a remote ball out but no ammo remaining. It will switch away as soon as the remote ball is destroyed.
- Darts now get a slight variation on how long they'll stick to a wall before vanishing to prevent clumps of darts from vanishing at once.
- Whomper now uses two separate sounds for firing and charging.
- Whomper now uses the previously unused alternate fire animation when alternate firing.
- Weapons can now use a new built-in EndZoom function to detect and take action when zooming is deactivated due to some external reason.

#### Weapon balance:

- Hyper Strike now identifies friendly targets while scoped.
- Hyper Strike distance readout has been converted to an actual measure of distance instead of a bunch of gibberish.
- Hyper Strike damage on players adjusted to 100 on head shots, 60 on chest shots, and 40 anywhere else.
- Hyper Strike fire rate has been slightly reduced.
- Hyper Strike scope crosshair is 50% larger.
- Hyper Strike is now more accurate at longer distances. The crosshair has been zeroed more accurately, and the beam traces more accurately.
- Hyper Strike now imparts more momentum. Chest shots should cause noticeable slowdown, stopping those hit in their tracks momentarily. Headshots, if not fatal, should also cause noticeable slowdown.

- Slightly adjusted the scale of the Nerf ball projectile to match the scale of the weapons.
- Bolos that hit walls now spawn two pulseballs. They are similar to Nerf balls, except they are electrocuted and cannot be picked up for ammo re-use.
- Slightly increased the spread on the Pulsator's alternate fire.
- Pulsator now consumes two ammo per shot, if primary fire cannot consume 2 ammo, it will fire a pulseball instead.
- Whomper alternate fire projectile now has its own sprite.
- Ball ammo pickups reduced to 14 ammo (from 15).
- Dart ammo pickups increased to 32 ammo (from 20), max ammo reserves increased to 80 (from 50).
- Ballzooka balls now lose damage as they lose speed, max damage has been upped to 30 (from 25) to compensate. Minimum damage per ball is 5.
- Reduced the upward velocity on the Ballzooka balls to make them easier to aim, and slightly increased their speed to compensate for reduced arc.
- Increased the base speed at which all dart projectiles travel.
- Increased the base speed of Pulsator bolos.
- Ballzooka goo can no longer trap its owner or teammates.
- Slightly increased the base speed of Ballzooka goo.
- Players already stuck in goo will take half the damage from additional direct goo hits, reducing the effectiveness of goo spam.
- Sidewinder can now lock on to winky and mover targets.
- Sidewinder lock is now sustained for a minimum of 1 second.
- Sidewinder lock can be sustained as long as you keep the crosshair on the target and does not need to be refreshed every interval.
- Increased the lifespan of Sidewinder discs so they are more useful at longer distances.
- Sidewinder discs can now bounce up to a total of 10 times before exploding.
- Seeking Sidewinder discs now have quicker reactions to player movement.
- Increased the base speed of Sidewinder discs.
- Seeking Sidewinder discs now do twice the damage of normal discs.
- Guided Sidewinder discs now identify friendlies and enemies.
- Reduced Mega Speed and Mega Jump re-spawn time to 45 seconds (from 90).
- Reduced Mega Power re-spawn time to 60 seconds (from 90).
- Mega Speed now also doubles your water travel speed.
- Mega Speed duration increased to 10 seconds (from 5).
- Triple Strike rockets now do reduced damage and increased momentum on hits to the foot region to improve the survivability of rocket jumping and reward direct hits more.
- Nerf Cannon balls now have a maximum fuse of 60 seconds before automatically detonating.
- Nerf rockets now leave a trail of bubbles while traveling underwater.
- Scattershot alternate fire mode now has twice the damage radius of primary mode, and does 10 additional max damage per shot (from 5).
- Reduced Triple Strike fire rate by 30%.
- Triple Strike alternate fire priming pumps now take 15% longer to complete.
- Triple Strike primary fire rockets are now spawned with appropriate offsets rather than from the middle of the gun for all three shots.
- Whomper alternate fire is now guidable via a small laser dot emitted from the weapon.
- Whomper shockwave now does damage based on closeness to the explosion, and has a minimum damage of 30 for anyone inside its extent. Note that damage is still calculated based on drawscale per tick, so if you are close enough to the center you will take multiple repeated hits to your health.
- Darts now spawn smaller effects on hitting walls, and larger ones on hitting players.
- Darts now start at the proper drawscale and no longer shrink upon hitting a wall.
- Slightly increased the fire rate of the Nerf Cannon's alternate fire mode.
- Increased the momentum transfer of the Nerf Cannon det ball.
- Nerf Cannon det balls now have a slightly larger explosive radius.
- Ballzooka goo now intentionally causes speed and jump powerups to expire early instead of unintentionally breaking them. Unless coded otherwise, most custom and default speed or jump pickups will allow the player to escape the goo after diminishing, rather than also sticking them.



- Players in possession of a Double Damage now emit a light glow.
- Revised all bot weapon AI settings to be more accurate to the weapon's usage. This includes splash damage recommendation, situational applicability, and attacking and defending strategies.
- Ballzooka goo now flashes your screen when you step in it.
- Made improvements to AI handling of all weapons. This includes correct settings for splash damage usage, some situational awareness tweaks, sustained fire, and switching priority.
- Decreased bot's aim error with the Ball Shooter. They should now be more likely to score in Ballblast matches.
- The Ballblast ball shooter now cannot be switched to unless you have at least one ball in your inventory.
- Fixed the Ballblast ball shooter not having any take out / put away animations.
- Fixed the Ballblast ball shooter not having any firing animations.
- Gave the Wildfire a firing speed buff.
- Projectiles that can be destroyed with damage (Whomper alt, Nerfcannon balls) are now assigned the instigator who destroyed them. This allows players to claim kills when they detonate another player's projectiles, instead of it counting as a suicide.
- Improved the visibility of the Hyper Strike alternate fire crosshair.
- The Sidewinder now shows a target (and name if applicable) on your HUD when you have a target lock.
- Guided Sidewinder discs' HUDs now have readouts and sounds for when your player takes damage, and when the disc has traveled into an out of bounds area.
- Guided Sidewinder Discs' HUDs now render frame elements green when looking at only (a) friendly player(s).
- Ballzooka balls now float in water.
- Sidewinder Discs now have a minimum speed. If they become slower than this minimum (due to repeated underwater bounces), they explode.