

IMPORTANT NOTES

If you ask me a question that's answered on this page, I'll be less likely to respond.

Supported StepMania Versions

Waterfall is supported by StepMania 5.0.12, 5.1, and 5.3 (Outfox). SM 5.3 is still under active development so it's possible that things might not work correctly with the theme when using it, but it seems to have been stable thus far, so it's allowed by default now.

Hash Update

Hashing has changed since the previous version to go along with GrooveStats's updated hashes, so the cache will be rebuilt upon loading into the new version for the first time. Included with this theme is a prebuilt cache of hashes of every chart ranked on GS (indexed by the folder path used by GS). The hashing algorithm that's now used is built into the engine in all builds of SM5, so hashing will be much faster now than before. The external script has been removed from this version as it doesn't seem necessary with the performance improvement of the new system. If this screen appears to hang, something probably went wrong in parsing one of the files. Typically, resaving the problematic file from the SM editor (using another theme) should fix outlying parsing issues.

GrooveStats Integration

Waterfall has built-in functionality to interface with GrooveStats for ITG scores, when running SM via the GrooveStats Launcher. Profile setup for the launcher is the same here as with Simply Love. The launcher can be downloaded here: [GS Launcher v1.0.0 Release](#). This theme has a lot of custom code to handle GS requests in different situations, which is detailed in this document in the sections for the relevant screens.

Decents/Way Offs

The option to disable "Decents/Way Offs" is at the bottom of the "Advanced Options" section of the modifier menu, labeled "Fault Window." It's labeled this in terms of the native timing windows used by Waterfall, but the ITG windows are affected by it. The menu itself is not good; that's hopefully temporary.

The default ("Enabled") setting now behaves differently for ITG. When on this setting, the Decent window is completely removed, with Way Off covering from the edge of Great out to 160ms. The "Extended" option will fully maintain both Decent and Way Off windows at their full size.

This setting, by design, *does not* save and never will. I want it to be a conscious decision to play with modified timing windows, not to treat removing them as the default state of the game. If setting this option once per session is too inconvenient for you, that's not something I plan on addressing.

ECFA 2021

Event-specific functionality for ECFA 2021 is removed from this version of Waterfall. Loading your profile in this version will also modify your PlayerStats file in some ways the old theme won't recognize, which would make your scores clear when loading back into the old version. This version will create backups of your "old" PlayerStats.wfs and ECFA2021.wf files when loading into the new version for the first time, but it's recommended that if you want to continue playing ECFA 2021, you either hold off on using this new version, or make a copy of your profile to use only for ECFA.

General notes on Waterfall vs Simply Love/other themes:

- While this is a public release, this is still considered a “preview build” of this theme. There are many things I still want to do for the final theme. I don’t want to discourage people from playing on it -- I wouldn’t be releasing this at all if I didn’t think it was in a playable state, but I don’t want it to be mistaken for the fully finished product. If some things (especially the overall aesthetic) look underdeveloped, in all likelihood I feel the same way, as I still have a lot of work to do.
- The NoteSkins included here are what are recommended to use with this theme. These are variations of various ITG style noteskins, prefixed with “WF-” that have additional things going on in them that allow features of this theme to work seamlessly. Using other NoteSkins will not break the theme, but when using them under the “ITG” Gameplay Environment, the color flashes will not be responding to the ITG judgments, which may be disorienting. Going forward, I’m open to including versions of whatever other NoteSkins people like to play with that will function correctly with this theme.
- This theme uses its own system of recording high scores. The first time you load a profile, it will “import” the scores from ITG, FA+ and “Experimental” modes into the new profile system. There is an option in Theme Options to run this merge operation every time you load your profile.
- Any options you had set in “Simply Love Options” along with any special player options you use, will have to be set again if you haven’t used a version of Waterfall before (the menu that was called Simply Love Options in SL is labeled Theme Options here). This is not a bug, just a byproduct of this being a new theme, which creates new ThemePrefs and UserPrefs files local to itself.
- USB profiles currently won’t work properly with this theme. Please use LocalProfiles stored on your machine.

Summary of Major Additions/Changes from 0.6.x

- Marathon Mode is now available, with some bells and whistles. A section for Marathon Mode has been added to this document.
- Integration with GrooveStats via the GrooveStats Launcher has been added.
 - View the online ITG leaderboard for ranked charts
 - See personal bests from GS on ranked charts at song select
 - See scores from GS rivals on song select or in leaderboards
 - Automatically submit ITG scores to GS at results screen 🖱️
 - View results from Stamina RPG submissions at results screen
- Hashing has been updated in line with GrooveStats V3 hashes. Hashing has a significant speed improvement over previous versions.
- Default Fault Window setting now removes the Decent window for ITG, keeping a large Way Off window.
- A sub menu has been added to the Results screen, with a few context-specific options.
- ECFA 2021 specific functionality is removed.
- Many aesthetic/layout changes.
- Some back end changes to profiles and other stuff.

Project Waterfall - Preview (Version 0.7.x)

Overview of New Features

This will be focused on features that are new to this theme, and are not just inherited from Simply Love. For features that already existed in SL, see SL-README.md

The following is an outline of the sections discussed here:

1. Profile Customization/Setup
2. Game Environments
3. LifeBar System
4. Clear Types and Grades
5. FA+
6. High Score Saving
7. Advanced High Score Stuff
8. Evaluation Screens
9. Player Options
10. Marathon Mode

Profile Customization/Setup

When using a LocalProfile from your StepMania setup, elements from that profile along with your own preferences within this theme will make up a “profile card,” which appears on the Evaluation screen (and later on, hopefully the Song Select screen, and possibly even Gameplay if there is some way to fit it). The card consists of 4 parts:

- Display Name
- Optional Subtitle
- Avatar
- ProfileCardInfo

The Display Name is defined in Editable.ini within your profile folder. If a subtitle is used, it will appear under your Display Name.

To use a subtitle, create a file called **subtitle.txt** in your profile folder, and just enter the text there. Note that the subtitle is limited to 20 characters, and newlines will be replaced with spaces. If there is no subtitle file upon loading your profile, this theme will create the file with no text in it so that you can just edit it if you want.

To use an avatar, put an image file named **avatar.png** in your profile folder.

Lastly, ProfileCardInfo is the section that appears at the bottom of your profile card, under the avatar. By default, this will just show how many songs have been played in the current session. There are four other options that can be used which are configurable from the “Customize Profile” menu within the Service Menu. These options are:

Mastery-SC Counts - shows how many Masteries, Awesome Combos and Solid Combos (see *Clear Types and Grades* section) you have recorded.

AC-FC Counts - shows how many Awesome Combos, Solid Combos and Full Combos you have recorded.

HCL-ECL Counts - shows how many Hard Clears, Clears and Easy Clears you have recorded.

ITG Star Grade Counts - shows how many Quad Star, Tristar, Double Star and Star grades you have recorded under ITG scoring (see *Game Environments* and *High Score Saving* sections).

Additionally in the Customize Profile menu, you can set your preferred secondary Evaluation pane, and preferred Evaluation graphs. See the *Evaluation Screens* section for details. There is also an option relating to whether GrooveStats scores should override local rate modded scores when viewing in the menu. See *Song Select Display Pane/GrooveStats Info* under the *High Score Saving* section for more info.

Note that when using a Guest profile, none of these features are usable and the card will just show defaults.

To use a profile with GrooveStats, you'll need to modify the file *GrooveStats.ini* which should be created in your profile folder any time it's loaded, if it isn't there already. The API key can be generated from your profile on the website, and IsPadPlayer should be set to 1 in order to submit scores (indicating that you are playing on a pad; keyboard scores are not allowed on GS).

Game Environments

Those familiar with Simply Love should know about its concept of Game Modes. Simply Love has the user select from a set of modes including ITG, Casual and FA+, and reassigns the metrics (along with several other game conditions) according to the selected mode. This theme has a similar concept of multiple game environments, but with selecting a game mode taken out in favor of something more seamless.

“Game Modes” as they exist in Simply Love are removed from this theme; you no longer select a mode from a menu, and the metrics enforce an environment based on a new set of metrics, which have come to be known as Waterfall, as the base game. ITG gameplay with all of its judgments, timing windows, life metrics and scoring metrics, is still possible here however, with some pretty nice benefits to this new implementation.

Some key differences to Game Environments from SL are as follows:

- Game Environment is selected from the “Advanced Options” menu from the modifier select screen.
- Game Environment can be set independently per player.
- Both environments are actually always running regardless of which one you have selected to view in Gameplay.
- FA+ is also completely usable per player in either environment (see *FA+* section).

To summarize, the most important things about this are that the Game Environment can be selected per player on the fly without backing out, and that the selection actually only affects what you *see in gameplay*, but scores for both environments will be tracked identically regardless of what options you’re using. This means you can play in the normal environment and see if you passed on ITG, or if you got the quad, or play on ITG and see what your Clear Type, score and everything else in the Standard environment are. There is a theme of *seamlessness* here that I have a strong commitment to.

With that said, there are a few things to take note of. First, the way judgment graphics are used has been reworked, making judgment fonts from SL no longer usable. Every judgment font needs to have frames for all judgments including FA+ versions of the top judgment. My commitment to seamlessness also means I want every judgment font to have a version for both environments styled the same way. Some more notes on judgment graphics are discussed in the *Player Options* section.

On a final note, the size of the outer timing window has some limitations. It cannot be different between simultaneously running game environments, and cannot be different per player. To put it another way, when a judgment happens, the game can track everything about how each environment should respond, but is still limited to that “when a judgment happens.” The total size of timing windows can’t be two different things at once. As such, by default, the ITG Way Off window gets truncated to the size of the standard Fault window. Because of the truncated Way Off window, the Decent window is removed from ITG when using the default setting. There is an option to extend the Fault window to the size of Way Off, which will enable the Decent window for ITG, allowing you to play ITG with the full #BoysOn experience. Likewise, setting Fault Window to “Disabled” makes the outer window the size of the standard OK window, which truncates ITG’s Great window a tiny amount. Truncated ITG windows are indicated on the Evaluation screens (and in game steps statistics) with an asterisk.

If you’re curious, the following are the timing windows and dp values for the Standard Game Environment:

Window	Size	DP
Masterful	15ms	+10
Awesome	30ms	+9
Solid	50ms	+6

OK	100ms	+3
Fault	160ms	0
Miss		0

Holds/Rolls: +6 / 0

Mines: -3

LifeBar System

One of the most advanced new systems built into this theme is its LifeBar system. StepMania's life system is actually completely unused, with a new system of three simultaneously running LifeBars in its place from the theme side. Technically speaking, there are actually four life bars running, because the ITG life bar is built in here too.

This section will be focused on the new cascading LifeBar system, but it's worth it to at least mention that the ITG life bar running in this theme responds to ITG judgments, and emulates ITG's life bar exactly, with all of its confusing and inconsistent logic intact. If you pass a song under the ITG environment in this theme, you can rest assured that it's a pass under ITG's life rules.

With that out of the way, I'll first point out some differences in general behavior between the WF LifeBars and the built in SM (and by extension, ITG) one:

- WF LifeBars use integer increments, with a max value of 1000 and min value of 0; SM's life value is a floating point between 0 and 1.
- ComboToRegainLife system is still used, but the CTRL value only decrements from tap judgments that increase your combo. In SM's built in system, the CTRL value decreases from any judgment with a non-negative life delta value. For ITG in particular, this means Decents and finished Holds/Rolls both count toward ComboToRegainLife; Holds in particular do not count under the WF LifeBars. This makes the RegenCombo value consistent with the actual combo counting in game; the LifeBar will always begin to increase at the same actual combo value.

The three LifeBars running in this theme have the incredibly creative names of Easy, Normal and Hard. If you've played IIDX or SDVX, you might have some idea how this dynamic works, with the main distinction being that none of the bars I've built use the dumb system of starting empty and requiring you to finish above some threshold in order to pass. All three start full and can't recover after emptying. As the names suggest, the Hard one is hardest to keep alive, with the Easy one having much more lenient rules. Each LifeBar has a Clear Type associated with it for finishing a song with the corresponding LifeBar alive. Finishing a song with Hard LifeBar alive will give a Hard Clear, whereas you'll just get a normal Clear if the Hard bar empties but

the Normal one stays alive, and so forth. More info on Clear Types in the *Clear Types and Grades* section.

I don't think it's important to list the exact numbers governing each LifeBar, so much as point out the general idea behind each one. Hard has a much greater emphasis on comboing effectively and staying on time, always requiring a combo of 10 to start gaining life. Hard's life gain drops to half outside 30ms, and the OK window has no life gain at all -- and for reference, OK is tighter than ITG's Great, so if you're used to cruising the Great window in ITG, you'll be gaining little to no life under the Hard LifeBar here. Hard also gives no life gain from Holds, so there is no padding at all from how the chart is written. On the other end, Easy gives equal life gain for all combo judgments, has less harsh penalties, and no combo requirement for gaining life. Normal feels pretty closely balanced to ITG, just with the new set of judgments and timing windows in mind. With all this being said, the raw amount of misses required to go from full to empty is not hugely different from one LifeBar to the next (they are different, just not by as much as you might expect). Making the game harder in that way, to me, does little more than just open the door for more annoying ways to fail, like misreading one pattern or messing up in a break because you were trying to self pit crew or something. The much bigger differences in the LifeBars come from how you have to keep it alive from judgment to judgment, which is much more interesting and satisfying to observe.

There is also a completely new mechanic at play used by the Easy and Normal LifeBars. Life will start to automatically regain during empty breaks if it is under a certain threshold and enough time has passed with no judgments occurring. This will never get in the way during charts of typical density, as every time a life changing judgment happens, the timer is pushed back up. If a judgment happens after regeneration has started, some time will be added back to the regen timer, so the regeneration will stop until the timer has expired with no judgments again. This only happens when life is under a set threshold, and life will only regenerate up to that threshold. The purpose of this is to give a little bit back if a break is completely empty but you manage to get through with very low life. For reference, the Normal LifeBar will take 5 seconds to initiate regeneration, and will regenerate up to 35%. Easy will take 4 seconds to initiate and regenerate, more slowly, up to 50%. Hard has no auto regeneration.

By default, the visible LifeBar at the start of a song is Hard. If the visible LifeBar empties, the LifeBar in view will switch to the next one down (so from Hard to Normal, then to Easy). A *Fail* will **only** happen once *all LifeBars have emptied*, so you can keep going and increase your score as long as the Easy bar is alive. This theme also records what your final score was for each LifeBar, and saves it to your stats file, so if you finish a song with a normal Clear and want to know what your score was when Hard "failed," that information is tracked. The Danger animation also plays for each LifeBar, with the green flash indicating that you've climbed out of Danger within the visible LifeBar. If the visible LifeBar empties but the next one down has not entered Danger, the Danger animation will fade away with no green flash. A red flash indicates a Fail once all LifeBars have emptied.

Finally, there is an option to change which LifeBar is visible from the start of a song. This option is labeled “Preferred LifeBar” under Advanced Options on the modifiers screen. If Hard is too intense, you can switch this to Normal or Easy, and that will show from the start of the song. An important thing to note about this is that no matter which you select, *all LifeBars are still running*. This means you can set Preferred LifeBar to Normal or Easy and still get a Hard Clear, because the theme is still running the Hard LifeBar invisibly. I don’t want to withhold any achievements just because you weren’t watching the progress of that achievement in gameplay. This is also reflected on the Evaluation screen, where all three LifeBar graphs are always visible.

Clear Types and Grades

A new type of achievement that is being tracked in addition to high scores in this theme is *Clear Types*. If you play DDR, you can think of this in the same way as how lamps work. There are 8 Clear Types that exist:

- 1) Mastery - 100% score
- 2) Awesome Combo - Full combo with no judgments outside Awesome
- 3) Solid Combo - Full combo with no judgments outside Solid
- 4) Full Combo
- 5) Hard Clear - Cleared within the Hard LifeBar
- 6) Clear - Cleared within the Normal LifeBar
- 7) Easy Clear - Cleared within the Easy LifeBar
- 8) Fail

One thing worth clarifying is that the logic behind “combo” is a little bit different from ITG. Hitting a Mine or dropping a Hold/Roll will reset your combo to 0. A Full Combo can’t be achieved if you drop Holds/Rolls or hit any Mines.

Your best Clear Type for any given chart is attached to your profile stats for that chart, separately from your high scores, in exactly the same way your PFC/GFC/etc lamps are in DDR. Currently, these are all indicated on Evaluation screens and anywhere else by kind of ugly colored texts; this is a placeholder for now. Eventually I want each Clear Type to have a cool looking medal associated with it, but I’m not an artist, so this will have to do for now. By the way, if you’re an artist and want to make some cool looking medals, I’ll pay you money for it.

Grades work a little differently from how StepMania insists them to, so I’ve circumvented SM’s system for these as well. The main thing is that there is no Grade associated with a Fail. The reason for this is that Fail is already under the Clear Type category (where it makes more sense, since you can fail a song with just about any score, but failing is mutually exclusive to all other Clear Types). Having a Grade of F sitting next to a Clear Type also indicating a Fail is redundant and doesn’t make sense, so the lowest Grade is a D. There also is no Grade associated with a perfect score, for a similar reason (except in this case, the redundancy is unavoidable; you’ll

always have the highest possible Grade if your score is 100%, but dedicating a Grade to a perfect score still wouldn't tell you anything additionally meaningful). What this means in simple terms is that Grades explicitly represent ranges of scores, detached from additional logic that is handled separately by Clear Types. This is a much nicer system, I think.

The score thresholds for WF Grades are as follows:

- S - 99%
- AAA - 97%
- AA - 95%
- A - 90%
- B - 80%
- C - 70%
- D - under 70%

The purpose here is to simplify Grades down to the most meaningful thresholds. As you get better at the game, scores in ranges below 80 or even below 90 become less common, and it takes more work to increase score as you get closer to 100%. So having a few close ranges near the top with some wider ranges near the bottom feels nice.

ITG scores obtained in this theme will calculate Grades separately according to the familiar Grade tiers defined by ITG, including using an F to indicate a Fail under ITG life. So you'll still see a Quad Star for a 100% ITG score on the Evaluation screen, and so forth.

Clear Types and Grades now show up on the song wheel as they did previously in Simply Love. When viewing the Standard environment, the colored Clear Type abbreviation will show, whereas when viewing ITG, the ITG grade icon will show. There is some additional logic here to keep in mind:

- 1) Any chart that has a score entered *in the current Game Environment and on the currently selected rate mod* will show the corresponding icon.
- 2) Any chart that has a score entered *in the current Game Environment on some other rate mod, but not the current rate mod* will show an indication of the rate mod used. This indication will just appear as "R" in 4:3 aspect ratio, as the rate mod text starts to become unreadable with 2 players at low resolutions.
- 3) Any chart that has *no score entered in the current Game Environment, but some score in the other environment (regardless of rate)* will show an asterisk.

Folder level Clear Types and Grades are also shown. If scores are entered for every chart at the currently selected difficulty in the current environment and rate mod, the lowest Clear Type or Grade achieved out of those will show on the folder item. If scores exist for every chart of the current difficulty but not all at the current rate mod or in the current environment, an asterisk will show on the folder item. Later on, I'd like to completely rebuild the song select screen in a way that conveys this information more effectively. I'd like to make song wheel items have enough space to provide all this information in a more easily parsable way. Long term ideas, though...

FA+

FA+ is usable here, and is much more fleshed out as a concept than what is currently referred to as “FA+.” In order to make this more understandable from the start, I need to establish that this theme’s definition of the term “FA+” is *anything relating to timing windows tighter than the top scoring window*.

There are technically 2 FA+ windows that are tracked and usable in gameplay with this theme. These are 10ms, which has now been branded as “Insane,” and 15ms. 15ms as an FA+ window is a little bit dubious, because it’s exactly the same as the theme’s native Masterful window, but it’s usable as an FA+ window when playing under the ITG Game Environment, so it’s considered part of the FA+ system. The “FA+ Window” option under Advanced Options in the modifiers menu allows you to choose which of these to view in gameplay, or not to use one. When one of these is in use, the same colored/white judgment coloring for the top scoring judgment that you know from existing FA+ environments is used for the in game judgment text. Additionally, if Steps Statistics is enabled, your current FA+ percentage will appear alongside all the other statistics. Most crucially, these FA+ options can be changed on the fly and set per player, just like with Game Environment. Finally, FA+ does not rearrange the actual engine level windows in use, meaning it does not sacrifice the outer timing window. The full #BoysOn experience is possible with any FA+ configuration.

On the Evaluation screen’s main pane, if an FA+ option was used in gameplay, the FA+ percentage for the window used will be displayed near the section with Holds, Rolls and Mines. If Fault Window was disabled, the separated pink/blue and white counts are shown in the familiar way, but otherwise these counts are not visible from the main pane (they are on a dedicated FA+ pane either way). This is a temporary design choice, as eventually I am planning on not having these panes look exactly like Simply Love does, and am intending on designing them with the ability to fit all judgments with FA+ on the main pane in mind. Additionally, timing graphs on the Evaluation screen will show the white range for whichever FA+ window was used, if one was used.

Just like with LifeBars, regardless of which options you use to determine what you see *in gameplay*, both FA+ counts are always being tracked, and always viewable at Evaluation. A newly added FA+ pane exists which lists the three windows, and shows your counts and percentages out of total notes in the chart for each window. Your personal bests for each one of these are also stored to your profile stats, so you can track if you improve your best counts.

It’s my hope that at this point, this paradigm of *seamlessness* might be starting to click more into place. It’s not just about being able to choose your gameplay environment on the fly, but also the fact that nothing is lost in doing so. ITG scores aren’t sacrificed for playing in the Standard environment. Hard Clears aren’t sacrificed for preferring to view the Easy LifeBar. FA+ counts

are tracked whether you're watching them or not. And so forth. Nothing feels disjointed anymore; it all just exists together in one place, there to make use of it in whatever way you want. This vision persists throughout everything I've done and should be reflected further in the following section.

High Score Saving

This theme uses a completely rewritten high score/stats system that completely ignores SM's engine level system using Stats.xml. One thing worth pointing out is that SM is still doing its thing, but the theme is not making any visible use of it anywhere. That said, scores obtained when using this theme will *not* overwrite anything in your existing Stats.xml files, as this theme uses a separate file labeled WF-Stats.xml. WF-Stats.xml can be thought of as a dummy file to just get StepMania out of the way; the actual stats being recorded here are in different files created by the theme.

Throughout this section, the entity that contains scores and other stats for any particular chart will be referred to as a "SongStats." For Marathon courses, an almost identical data structure is used with only a couple fields changed, so for the purpose of this document, anything relating to SongStats will also apply to course stats, unless otherwise specified.

Some major differences between the WF stats system and SM's are:

- SongStats are indexed by the hash using the same system used by the Groovestats QR code, meaning all copies of the same chart will have the same stats.
- Courses don't have hashes, so they are indexed by an ID derived from their file location.
- Playing a chart on a rate mod will save stats separately from any other rate mod. Some chart on some rate mod is essentially considered a unique chart by itself.
- The concept of "High Score Lists" now only exists in the context of machine records. For player profiles, only the personal bests are recorded, though there are many components to personal bests as explained below.
- The old school arcade style "HighScoreName" is no longer visibly used anywhere, except in the messy/unfinished Song Select screen.

The first time you load any profile (including Machine Profile) in this theme, a "merge" will be done. What this is doing is looking at every high score recorded in your Stats.xml, ECFA-Stats.xml, and Exp-Stats.xml, and extracting any usable scores and data that can be used in the context of the WF stats system. Any scores obtained in either ITG or FA+ within Simply Love should be intact as ITG scores after importing, and anything obtained in Experimental Mode will be recorded as Standard scores. This merge will always happen if the WF stats file doesn't exist for some profile being loaded, and there is an option in Theme Options to always merge on loading profiles. This option is disabled by default since it adds

some time to profile loading, but it's worth noting that it takes nowhere near as long as it used to with the addition of the maintained hash cache. Try it out if you're curious.

The role of the Machine Profile vs that of Player Profile with respect to SongStats is much more distinct in the WF high score system. The Machine Profile specifically only manages *lists of high scores*, associating a name and a date to each record. A SongStats for the Machine Profile actually contains two separate high score lists -- one for Standard and one for ITG scores. Whenever a chart is played, the scores for both environments are inserted into the corresponding machine record lists. Machine record lists keep the top 10 scores based on percent DP within the corresponding environment. A score obtained at a later time is considered "higher" when scores are equal and will take precedence.

A SongStats for a Player Profile has the following elements:

- General chart information (song title, artist, difficulty, chart hash, rate mod, etc)
- Play count
- Best Clear Type
- Best % score (Standard)
- Best % score (ITG)
- ITG Pass/Fail/unplayed
- Best Insane (10ms) FA+ count
- Best 15ms FA+ (Masterful) count
- Information on the "Best Play" on the chart, based on Best Standard % score -
 - Date obtained
 - Judgment counts
 - FA+ counts
 - Final LifeBar values
 - Final score for each LifeBar
 - Significant Mods used (see below)

When a chart is played, each of these individual elements is compared against what was in the player's existing SongStats, if there was one, and each one is updated if it improved. This allows you to track many different aspects of your progress on a chart independently from each other. There is a pane labeled "Achievements" on the Evaluation screen which reflects all of these comparisons (see *Evaluation Screens*).

Significant Mods is a list of mods that might be important to show that were used for a particular play on a chart. This essentially replaces the old "disqualification" system -- nothing will disqualify you, but options that affect the chart or gameplay environment in some notable way are recorded. The following is a list of what are considered Significant Mods:

- CMod, if a CMod would disqualify under ITG rules
- ITG Gameplay Environment

- FA+ Window, if used
- Fault Window, if something other than “Enabled” was used
- Any Turn mods
- No Mines

Note that at the moment (and for the foreseeable future), mods that add or remove notes or other elements to a chart are completely unselectable in this theme.

Song Select Display Pane/GrooveStats Info

At the bottom of the song select screen, various information relating to the personal and machine records for the selected chart is shown. The name and score shown at the top refer to the top machine record for the currently active Game Environment (in use by the corresponding player). The score labeled “PB” is your personal best % score on the chart, for the active environment. To the right of these, your personal best FA+ percentages are shown.

When connected to GrooveStats, these elements will be overridden in various ways. Firstly, GS information will only be shown if you are viewing from the ITG environment. Secondly, by default, GS will only show if the currently active rate mod is 1.0x. This rate mod rule can be overridden by a new profile setting, which can be changed in the Customize Profile menu. With the override setting enabled, GS information will show regardless of which rate mod is selected, which can be useful for things like Stamina RPG, where you’re likely to be bouncing around between rate mods a lot.

When GrooveStats is active and the chart being viewed is ranked, the machine record is overridden by the name and score of the current top score on GrooveStats. The PB score will show whichever personal score is higher between your local one and your score from GrooveStats, if you have one submitted. If the local score is higher, the “PB” name will say “LOCAL” instead to disambiguate. Additionally, if the GrooveStats score is higher, it will update to your locally stored personal best % score for ITG upon receiving the score from the service. Finally, the FA+ section is overridden by scores from your rivals. Rivals can be assigned to your GS profile via the GrooveStats website in the Edit Profile menu.

Lastly, for ranked charts, the GrooveStats leaderboard for the selected chart can be viewed from the sort menu (MenuLeft+MenuRight, or Select+Start).

Advanced High Score Stuff

Another new feature to this theme is the addition of *detailed files* for high scores. These files contain the same general chart metadata stuff that the SongStats contains, along with detailed information for a specific play on the chart. These files are written to a folder called “detailed” within your profile folder, with a filename that comes from a combination of the chart hash and

the rate mod used, if one was used. These files are created/overwritten automatically whenever you upscore for either the Standard or ITG environments, but can also be saved manually via the screenshot command. Manually saved files will go into a subfolder called “saved” with filenames that come from the song title and current date and time. These can also be saved from a menu that is accessed by pressing MenuLeft+MenuRight on the Results screen.

Marathon courses do not have their own detailed files, and will not automatically save any for the individual charts played. The sub menu on the Results screen has options to save detailed files for all upscores on individual charts, and for every chart.

In addition to general information and Significant Mods used for the given play, the detailed file contains information on every judgment that occurred during the chart, which includes the song timestamp, judgment type (tap hit, miss, hold, mine etc), timing offset, and panels. What this means is that all of the information needed to construct everything seen in game at Evaluation is recorded to a file. Reading that file you can get judgment counts for either environment (or even any other arbitrarily defined environment), timing error stats, per panel judgment counts, FA+ counts, LifeBar graphs, and so forth.

Included with this theme is a Python script called DetailedJudgmentInfo.py. Running this script with Python 3 and passing the path to any detailed file as a command line argument, the script will print out a bunch of judgment information. Note that this script was basically thrown together quickly and serves more as a proof of concept for the idea of something being able to read these files and interpret all the relevant information, than anything super useful on its own. The key thing to understand about this is that it isn't just reading some counts and spitting them out; it's *calculating* all this information by looking at all of the individual judgments in exactly the same way the actual game does.

While the idea of external score viewers is cool to me, there are other implications for how this can be used within the theme itself, and I have several ideas I'd like to implement later on. One of them is to allow real time score comparison against a PB or other play on a chart, reading the detailed file to get the information for comparison. Another idea I have is to have a screen where you can view various stats stored in your profile, which would allow you to select any SongStats you have stored, and view the stats from any previous play that has a detailed file, on a screen similar to what would have appeared at Evaluation. There are a lot of ideas I'm really excited about that come from being able to successfully output these detailed files.

Evaluation Screens

Some new panes have been added to the Evaluation screen, and some of the information already previously there in Simply Love is presented a little differently now. This section will discuss everything either changed or completely new on this screen as well as the Summary screen, along with some ideas about how this might change going forward.

There is a new sub menu on this screen that can be accessed by pressing the left and right menu buttons at the same time. This menu has selections relating to saving screenshots and detailed files, and will also give the option to view Stamina RPG results if they are received from GrooveStats.

If GrooveStats is active for your profile, your ITG score will be automatically submitted upon completing a song, but *only if the score was a pass for ITG*. If a chart is ranked and successfully submitted, a confirmation will show on the screen. A failure message will display if an error was returned on submitting the score. If either player is using the ITG environment in gameplay, and gets a response from a Stamina RPG event, the Stamina RPG dialog with information relating to stats, quests completed and leaderboards will automatically show. You can view this dialog again from the sub menu after dismissing it. If you get a World Record on the GrooveStats leaderboard, something sick might happen 🖤

Some notes about the general layout of the Evaluation screen. To summarize:

- Banner scaled down to make room for full song and chart info.
- Song info box below the banner contains title, subtitle, artist, BPM and length all together in a neat fashion.
- Marquee style chart info removed in favor of showing all 3 potential fields together.
- Profile name removed from the footer, and Profile Card added to the upper part of either player's side.
- Difficulty number replaced with larger difficulty "icon" that includes both the difficulty name and rating number.
- LifeBar graph now appears on top of chart density graph; timing scatterplot is shown when viewing the Timing pane, or based on player preference.
- Lower part of the screen pushed down slightly, mod string removed from the bottom of panes. CMod and Turn mods now show in an icon row underneath Clear Type.

The song info section is something I feel particularly strongly about. Here's a question to consider: why haven't we been displaying the music artist on this screen? There is a reason, but it's not one that many people would really know unless they actually stopped to think about it for a minute. Pretty much every other rhythm game I can think of displays the artist here in some form, because it only makes sense -- but here's what you might not be thinking about: this includes ITG. Not ITG as we know it, but the actual game *In The Groove*. See, once upon a time, ITG was an actual game of its own, with its own set of content, and wasn't designed around the idea of custom songs. As part of the game's content, every song had a banner, which included both the title and artist. So in actuality, in the context of the game proper, ITG did always have the music artist visible on this screen. This is the reason there was originally no plain text indication of the song title at all. Now about that plain text song title, there is a story behind that that's connected to this. Once customs started to become a thing, these were mostly all being played under r21 restrictions, where there were no graphics supported, and many people didn't make professional graphics for simfiles anyway. Playing charts in this way in the

original ITG2 theme meant you had no way of seeing what the actual song was from a screenshot, and as a result, everyone would have to just say what song they played when they posted scores. As such, one of the first things people started doing when hacking themes was to add a plain text above the banner to indicate the song title, so that you'd always know what the song played was in a screenshot. This became more or less the expected layout for ITG themes, which persisted until now without anyone really questioning it. The point of this whole tangent is just to demonstrate that the layout you're used to originates from a context that isn't really even relevant anymore, and is definitely not ideal. I'd also like to clarify that this isn't intended to put any blame on Simply Love for something I consider "bad," because again, I think this is something everyone just takes for granted because members of this community have all just been used to the way this has been for so long that we don't really even stop to question it. So with that in mind, I'd like to suggest that going forward, for this to be a change that every theme tries to adapt. Include proper music credit on the Evaluation screen, because why not?

Anyway, with that out of the way, the other thing here I want to talk about is the mod string. While this string *can* contain some useful information, I think the way it presents that information is tacky and annoying, and all of the useful information it can give could be presented in better ways. Firstly, the only mods that are important to convey are Significant Mods, many of which are already indicated in some way -- FA+ shows the window next to Holds/Rolls/Mines, No Mines would show a value of 0 in the Mines field, #BoysOff shows the windows disabled, for example. CMod and Turn mods are also now shown in a row of icons just below the Clear Type text. The CMod icon will only show if using the CMod is considered significant based on the chart.

Now, onto the panes (finally). Something to note is that there are essentially two types of panes: environment-centric ones, and environment agnostic ones. When viewing an environment-centric pane, the Grade, PB indicator, and life graph all reflect the corresponding Game Environment, otherwise these elements will reflect the environment played. There are copies of the Main, Per Panel, Timing Distribution and High Score panes for the ITG environment. Additionally, the QR pane is considered ITG-centric, since it's used for GrooveStats. Achievements and FA+ panes are considered environment agnostic.

Dual Pane View

When playing single player mode, you will see two panes at once, and each can be cycled through with the menu buttons on the corresponding side. When dual pane view is active, the side that was played on will *only show panes related to the Game Environment used in gameplay*, aside from agnostic panes. The secondary side can show all panes regardless of environment. This means that you can show one of each at a time, or two for the environment used, but the screen will always display information for the environment used. In 2 player mode, this doesn't apply, since being able to see that information at all takes precedence for me. So in 2 player mode, your side will have access to all panes regardless of environment. Also, note that if your "Preferred Secondary Pane" is set to Default, it will show the Main pane for the opposing Game Environment on the secondary side upon entering Evaluation.

Graph View/Control

You can toggle which graph (life or scatterplot) is shown under each side's pane using the MenuUp or MenuDown buttons. Since many cabinets don't have these buttons available, there is a setting in Theme Options that allows you to use the Up and Down arrows for this. There are also preferences under the Customize Profile menu that allow you to choose which graph will display on either side by default. One caveat here is that the Timing Distribution pane forces the scatterplot, so that will override your preference and disable toggling. This is admittedly kind of unnecessarily confusing, so that might change later.

A few additional notes on the scatterplot graph. If an FA+ window was used, points will be colored white within the corresponding white range for the window used. Also, this graph will be zoomed according to the widest (Standard) window hit. This means if you get an Awesome Combo, all of the vertical space is reserved for that 30ms window, which makes the scatterplot feel more visually meaningful with really tight timing. The scatterplot is also unobscured by the life graph in this theme, which I personally think looks better. Another smaller note about the scatterplot is that it displays Mine hits as gray vertical lines.

Main Panes

These are mostly what you know from Simply Love; the main thing to know is that there are two versions of the main pane, one of them being ITG-centric. When playing under the ITG Gameplay Environment, the default pane on the Evaluation screen will be the ITG version of the main pane. On the ITG pane, "Way Off" or "Great" will have an asterisk next to them if they have been truncated from their full size (see above section on *Game Environments*). If an FA+ window is used in gameplay, the window size and percentage of notes hit within the window will show on the bottom, next to Holds/Rolls/Mines. If Fault Window is disabled (or on the default setting when using ITG environment), the colored/white split for the top scoring judgment with FA+ will be shown as well. As mentioned previously, eventually I want to redesign these visually in a way that accommodates FA+ split either way.

High Scores Pane

As mentioned previously, the concept of high score lists no longer exists in the context of personal records. As such, this pane has been modified. This pane will show the top 10 machine records for the labeled Game Environment. As of version 0.7, there is a separate copy of this pane for each environment.

Another copy of this pane is actually created upon getting a leaderboard back from a successful GrooveStats auto submission. This will show the online leaderboard from GrooveStats for the chart.

Timing Pane

There is a copy of this pane for the ITG windows, and this pane will show the white range for the FA+ window used, if one was used. This pane also zooms the horizontal range to the lowest native window hit, in the same way the scatterplot does. There are also some differences in the

timing stats shown here from in Simply Love. Mode is removed, while average offset and max error are added. Average offset is the average raw offset (summing all positive and negative values together), while average error is the average absolute value of offsets. Max error is the farthest time from the center that was hit. These are all calculated with more precision than in previous versions.

GrooveStats QR Pane

There are several changes to this pane as of version 0.7. First, it will now be available regardless of whether ITG mode was used in gameplay (it will of course only consider the ITG score). Some more rigorous checks are introduced to validate, but assuming everything in the theme is functioning correctly, these should all pass. The pane is ITG-centric, so if you played on Standard environment in single player, it will only show up on the secondary side. Next, if GrooveStats API functionality is enabled for your profile, the QR code will be blocked out when a successful response is received. The accompanying text will note either that the score was already submitted, or that the chart is not ranked. On a failed auto submit, the failure message mentions that you can use the QR code to submit. Profiles not configured with an API key, or the Guest profile can also use the QR code normally.

FA+ Pane

This newly added pane shows your counts and percentages for each FA+ window, as discussed in the above *FA+* section. The layout of this is pretty plain, but the information should be pretty self explanatory. The percentage shown is the percentage of notes hit within the window out of the total note count of the chart. This pane also shows the total step count.

Achievements Pane

The most elaborate of the newly added panes is the Achievements pane. This shows comparisons for every personal best item you have stored in the SongStats for the chart played, with the corresponding elements of the current play. You'll be able to see if you improved your scores, Clear Type, and FA+ counts from your previous bests, or just see how the current run compares in each of those categories. This pane might seem like information overload, but its purpose is geared toward advanced players wanting to track their progress in deep ways, so that is kind of the point in a way. That said, I'm sure it might look intimidating to less experienced players, so something I'm considering is making a simplified version, with a UserPref option to enable the advanced version.


The last thing worth going over here is the Set Summary screen. This screen will show each row according to the environment it was played in -- if you played it under ITG, it will show the ITG stats, otherwise it will show the Standard stats. If Fault Window was disabled, numbers will be invisible accordingly. If an FA+ window was used, it will be indicated above the grade, and the split counts will be shown. This is all nice for now, but eventually I want to make this screen even more dynamic. I'd like to be able to highlight any individual row and switch between environment views, or even select it to show the Evaluation for that play again. These are ideas I have in mind for later on.

Player Options

In this section I'd like to go over any newly added options, or ones that were changed in some way, on the modifier select screen. Some will be quick notes, while others will be more elaborate discussions about why it's a certain way, or where it's going eventually.

One thing I want to mention right away is that if you find some of these options a bit obtuse or confusing, chances are I agree. Honestly, I think SM's option rows are kind of terrible, and eventually I am planning on rebuilding Player Options as a new custom menu within the Song Select screen. I have a lot of ideas about this, which will allow these options to be organized better, and not have to be presented in such limited and annoying ways. For now, it's all at least *functional*, so that's good I guess.

Early/Late Style

Early/Late ticks are no longer embedded into judgment graphics in this theme. Instead, a separate indicator is shown above the judgment on the corresponding side. By default, this appears as a text; setting it to "Tick" will show it as a plain tick (the actual look of the tick is subject to change, it's kind of ugly right now). Selecting "None" will hide this indicator. There is now a new option here: Error Bar. This setting will show a visual representation of the top few windows, and a small tick on this bar where your exact timing error was (leftward is early, right is late). So here I am, 

Early/Late Color

There are three settings here, which only apply to the "Text" and "Tick" styles. By default, these are colored white. The "Early/Late" setting colorizes the indicator by whether it was early or late, in a similar fashion to how DDR does. Finally, "Judgment Color" colorizes the indicator to the same color of the judgment that occurred.

Judgment Graphic

As mentioned earlier, judgment graphics have different requirements in this theme from Simply Love, and therefore only ones designed for this theme will work. With that aside, there is a new "Plain Text" option here, which displays judgments as just a plain text actor as opposed to an image. This leads into some thoughts I have about judgment graphics in general, which should illuminate where the idea for this option came from.

I've given a lot of thought to how judgments are shown in game, and some common problems associated with them. Some people don't like seeing so many different colors in dense charts, or find it distracting seeing so many different judgments, or just might not be able to differentiate the colors or words easily for any particular reason. With this in mind, two ideas I have for later on are optional color schemes and naming schemes for how judgments show in gameplay. With plain text, these options would be limitless, since the text can be set to whatever you want, and diffused to any color. The most flashy graphical judgments would be incompatible with these features, but some graphical judgment fonts could be made with diffusing to custom colors in

mind. Additionally, some judgment fonts can be designed around preset naming schemes -- one idea I had was for all combo judgments to just say Hit, another one is to use the same word for the top 2 or 3 windows, and so forth. There are a lot of possibilities to explore here and accommodating as many players' comfort zones as possible is a good thing. Plain Text seems like the most customizable means to this end, allowing the user to customize the text in exactly the way they want, at the expense of looking really cool.

On a final note about judgment graphics, combo fonts and Hold judgment graphics are not planned to be supported in this theme (sidenote: I am not intending to use "Wendy" as the combo font in the final version either. Sorry Wendy). Hold judgments have been made much less obtrusive as they are in this theme, however.

Step Statistics

Simply Love's "Data Visualizations" option set is replaced with just the option for Steps Statistics. In all my experience, this has been the most valuable of these visualizations, and I can't remember ever seeing anyone use the Target Score Graph in particular. If you're upset that the other options are removed, feel free to say so, but if your complaint sounds like it only comes from a place of "something that used to be here isn't here anymore" rather than a real demonstration of its value, I won't be convinced. With that aside, a noteworthy addition to Steps Statistics is that it will display your current FA+ percentage for the window in use, if one is in use. It will also reflect the Game Environment in use.

On another note, something I *do* intend to bring back that's temporarily removed in this area is "Target Score" and "Action on Missed Target." I have some different ideas about how I want to handle Target Score, so once that's done, it'll be usable again. Also, real time score comparison vs personal best is something I plan on implementing using the detailed score files pretty soon.


Gameplay Mode

Switch between Standard and ITG Game Environments. This can be set individually per player. As discussed in the *Game Environments* setting, this only affects what you see in gameplay, and your scores for both are recorded regardless.

FA+ Window

Show a distinct judgment graphic for a window smaller than the selected Game Environment's tightest scoring window. The 15ms option will only affect the ITG Game Environment, as the Standard environment's Masterful window is already 15ms. This is an example of one of those things I hate about SM's options screens. In a better menu, the 15ms option wouldn't even be visible if you don't have ITG selected; having to list it as "15ms (for ITG)" is dumb and confusing. Anyway, as mentioned in the *FA+* section, this only affects what you see in gameplay, and all FA+ counts are tracked regardless.

Early/Late Threshold

This determines whether the Early/Late Indicator should appear only outside the top scoring window for the selected Game Environment, or outside the FA+ window in use. The default option is FA+, which is functionally the same as Top Window if you are not using an FA+ window. This means if you like it to appear for FA+, you can just leave this option on FA+ all the time without having to worry about what happens when you enable or disable FA+. You may now also set this to “None” which will make it always appear. This is recommended for the  Error Bar setting, since you probably don’t want it to go away when you get a top judgment.

Preferred LifeBar

Sets the LifeBar that is visible from the start of the song. See the *LifeBars* section for a detailed explanation of cascading LifeBars. As mentioned in that section, this only affects what you see in gameplay, and all LifeBars are running regardless. This also has no effect when playing in the ITG Game Environment, as the LifeBar is replaced with the ITG one in that case.

Fault Window

This is this theme’s replacement for the “Timing Windows” option. You can either enable or disable the Fault window, which refers to the range of judgments from 100ms to 160ms. Note that disabling the Fault window will remove both Decent and Way Off from ITG, along with truncating ITG’s Great by a tiny amount (from 103.5ms down to 100ms). When a better menu exists, this set of options should be more dynamic to the Game Environment in use (though that gets complicated when two players are playing in different environments). This option is **not** independent per player; it affects the game globally. This option also **does not save**. This is by design.

Marathon Mode

Waterfall version 0.7 (finally) allows Marathon courses to be played! When StepMania is in “Home” mode, Marathon is selectable from the main menu. In arcade mode, this is selectable from the style menu once you go into a game.

One thing I’ll say right away is that very little time was spent on the Course Select screen. This is about as bare bones as it gets, mainly because it seems like a wasted effort to go out of my way to make this screen look nice specifically for course related conditions, when I’d like to rebuild the song/course select screen later anyway as mentioned however many times by now.

A lot of extra work did go into under-the-hood stuff relating to how courses are tracked, however. When a course is played, your scores and detailed stats are tracked individually for each chart played in the course. After finishing a course, these stats will be saved back to the corresponding SongStats for each chart in your profile. So if you get all Fantastics in a single song within a course, that will save to your profile as a 100% score for ITG on that individual chart.

The Results screen also has some differences/additions when in Marathon mode. The graph display at the bottom of each pane will show graphs for each chart played, with the backing color changing as a way to differentiate each chart. The density graphs of each chart are all shown in sequence, and the life graphs and scatterplots are all mapped across the whole course. As mentioned earlier, the sub menu has options relating to saving detailed files for either upscores or all charts played in the course. Note that the screenshot button will not save these in Marathon mode.

There is an additional pane added to the Results screen in Marathon mode, with a copy for each environment. This pane shows the % scores, Clear Types and Grades for each chart played in the course. The view will scroll automatically if more than 4 charts were played.

Eventually, I'd like to add more options to take advantage of this added back-end tracking as well. One planned idea is an option to show the % score for the current chart in gameplay, but this feature didn't make the cut for this version.

Credits/Acknowledgments

quietly-turning, natano and the whole Simply Love team

This theme uses Simply Love as a foundation, and would not exist without it. In building all of this, I have had to dig through nearly every file of Simply Love, which has given me an even greater appreciation for all the work that has gone into that theme than I already had. Simply Love has played an instrumental role in keeping the "ITG" scene alive while improving the game in ways we could have never imagined before the jump to SM5. The importance of SL can not be overstated here. I would also like to thank quietly-turning for encouraging me to start this project, despite my initial negative response.

Pluto - Background art (previous version)
RiOdO, McJeebie, Telperion - ECFA 2021 integration (previous version)
ECFA 2021 team - feedback on ECFA 2021 features (previous version)
mute - Noteskin work, previous judgment fonts
RAKKII - judgment fonts
dimo - judgment fonts
teejusb - Technical help/discussion, GrooveStats features
natano - GrooveStats Launcher, implementation help
Archi, dominick - GrooveStats website/API features
Stamina Nation/ECFA servers - General feedback
MegaSphere - Base noteskins
Telperion - WF-Cyber and WF-Shadow noteskin conversions
Chief Skittles - Testing, feedback, judgment fonts

implode - Testing, feedback
UVCat - Testing, feedback
ITGAlex - Previous judgment fonts, testing, feedback
Boochypa - Lots of valuable feedback
@rogerclark on twitter - Feedback
iamchris4life - Feedback

BG Video credit: hdbacks.com

Music Credits:

Menu screens: Aquatic Ambience (remix) - Kamex
Evaluation screen: Compass - FEZ OST - Disasterpeace
Game Over screen: Clocktowers Beneath the Sea - A Hat in Time OST - Pascal Michael Stiefel

These songs were chosen to fit the mood I feel from the corresponding screens.

Planned Updates

This version was a bit of a diversion from what I was originally planning to release next. I did manage to get Marathon mode working, which is a big thing to have out of the way. But other planned features got brushed aside to make time for the GrooveStats Launcher features (which I think are a worthwhile inclusion that was well worth the effort).

A pattern I've noticed with this project is that I tend to get motivation in short bursts. After ECFA 2021 launched, I didn't work on the theme for 3 months, and then went crazy on all the Marathon stuff starting near the beginning of April. After spending the last month crunching this all together, I'm probably ready to go back on another break from it for some time.

Currently, I'm thinking I might release some smaller updates here and there over the course of this year. Adding little todo list items here and there whenever I get the drive to work on them. I don't want to promise anything specific at this point, because of the sporadic nature of how my motivation has been with this project.

Why did I include a ramble about some unrelated game at the end of a technical document about a StepMania theme? You might call it pretentious, and honestly I wouldn't argue with you.

In a way, it was fitting though. The *Other Ramblings* section of previous versions of this doc was mostly a place for me to just lay out a bunch of miscellaneous things I was thinking about at the time. Many of those things would naturally be related to the theme itself, after spending so much time working on it every day. The notes about the goals and more philosophical stuff about the game that took up most of that section were things relating to the theme that didn't really have a place within the explanations of features, but more importantly, were a reflection of just how much time I've spent thinking about this game.

If you've seen [VincentITG's interview](#) with me about the Waterfall project, you might remember me (in a terribly articulated way) expressing uncertainty about how I feel about continuing with this project long term, and that I may be happier if I just move on to something else that I have more personal control over. Games in general are a broader hobby I have, and ITG/rhythm games just happen to fall pretty strongly within that hobby for me. At the time I was getting ready to release the last version of Waterfall, I needed to update the readme with a bunch of new information, but what was really on my mind at the time was that I had just played through one of the most interesting games I had played in a long time, and that was kind of all I really wanted to talk about. Dropping this unrelated bit about another game was about as good of a reflection of my immediate feelings toward the project as it gets -- which is to say, my drive to continue with it was pretty low, and expanding to other things was where my mind was.

During the time off from working on the theme, I actually started trying to develop a separate game. No idea if this will come to fruition as a finished product, but it did feel good to be working on something completely new from scratch. It hasn't gotten very far yet; it's basically just the beginning of building a movement system right now. Movement systems can be really hard to get right, so I feel like I need to spend a lot of time getting this to a point where it feels good before I have anything interesting. The overall idea I have comes somewhat from thinking about other games I've played. One of which is Sonic Adventure 2, which I completed again recently for more or less the purpose of reevaluating how I feel about certain aspects of the game, and how they could be applied to another game. Anyway, I'll probably go back to working on that in the downtime after this release for a while, and eventually feel like working on WF again.

As for a game that's stuck out for me recently, I've been playing [Pac-Man 99](#) a lot. I don't have anything particularly deep to say about it other than that it's just an insanely fun game. There's a surprising amount of variety in strategy and moment to moment decision making that makes it not feel like the same thing every time. It's also given me a bit more of an appreciation for the original Pac-Man, which I never played much of before. It still holds up as a really great arcade game.