

bruddog

Posted June 2, 2009

Report post 🛛 📢

Down with button mashing



if anyone knows it's jstout.

CPU play calling logic is one thing that is very bad. TSB Ultra was trying to implement something like that back in the day where you could set play tendencies for each team. TSB Ultra was basically a modification of on of the emulators that would implement most hacks via RAM and a separate GUI interface.

viewtopic.php?f=37&t=1937&hilit=TSB+ultra

Moderators

3,07411,466 postsLocation: Ca

I wish that coder had gotten farther along as that is really the best way to hack tecmo rather than to try and hard code everything where you are so limited by the NES architecture. Not to say that what has been accomplished by cxrom, jstout, and you isn't anything short of amazing.

Even some very basic logic on offense and defense would go a long way. The CPU logic is probably pretty close to completely random but I've never looked into it.

+ Quote





Members **O** 1,541 5,286 posts Location: Boston, MA

Posted June 2, 2009

bruddog said:

if anyone knows it's jstout.

CPU play calling logic is one thing that is very bad. TSB Ultra was trying to implement something like that back in the day where you could set play tendencies for each team. TSB Ultra was basically a modification of on of the emulators that would implement most hacks via RAM and a separate GUI interface. http://www.tecmobowl.org/forum/viewtopic....=TSB+ultra

I wish that coder had gotten farther along as that is really the best way to hack tecmo rather than to try and hard code everything where you are so limited by the NES architecture. Not to say that what has been accomplished by cxrom, jstout, and you isn't anything short of amazing.

Even some very basic logic on offense and defense would go a long way. The CPU logic is probably pretty close to completely random but I've never looked into it.

That's the thing; I'm not totally sure if it is random. Now that this ROM I've edited has universally specific defensive reactions, I'm beginning to notice some tendancies by the CPU. I don't know enough about the game engine itself, regarding CPU play selection, to create any sort of educated theories however, so I'm going to have to hope that Jstout or the other coding homies here have a better understanding of what's going on. That is an interesting link, though, for sure.





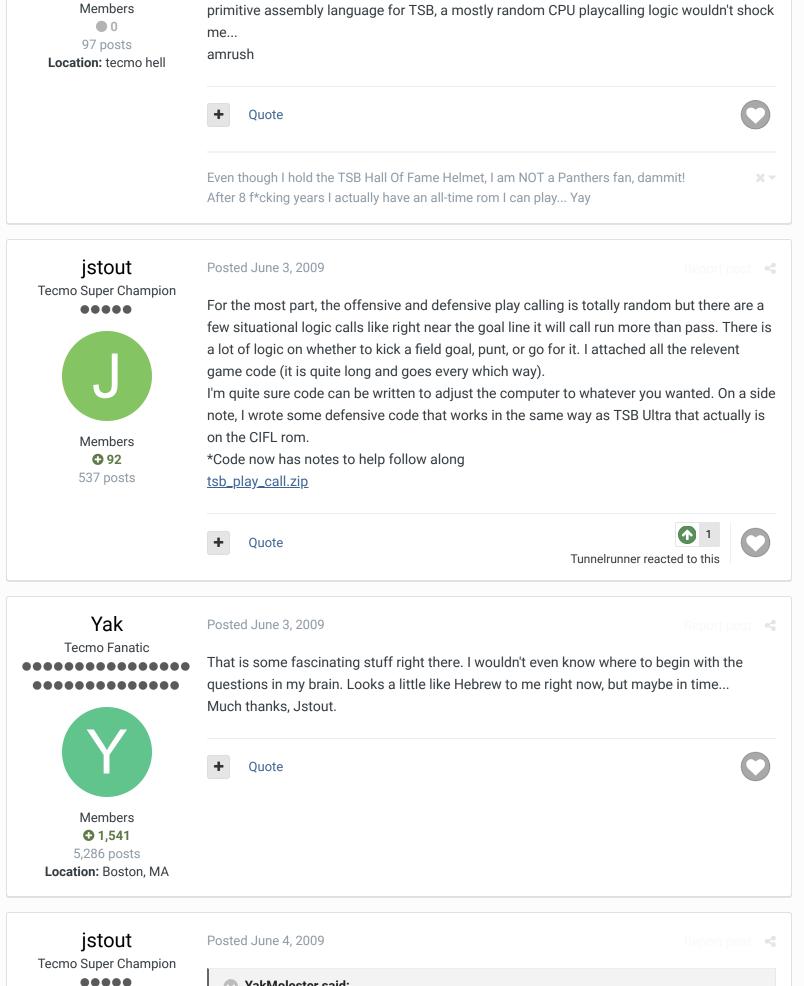
amrush Promising Rookie



Posted June 2, 2009

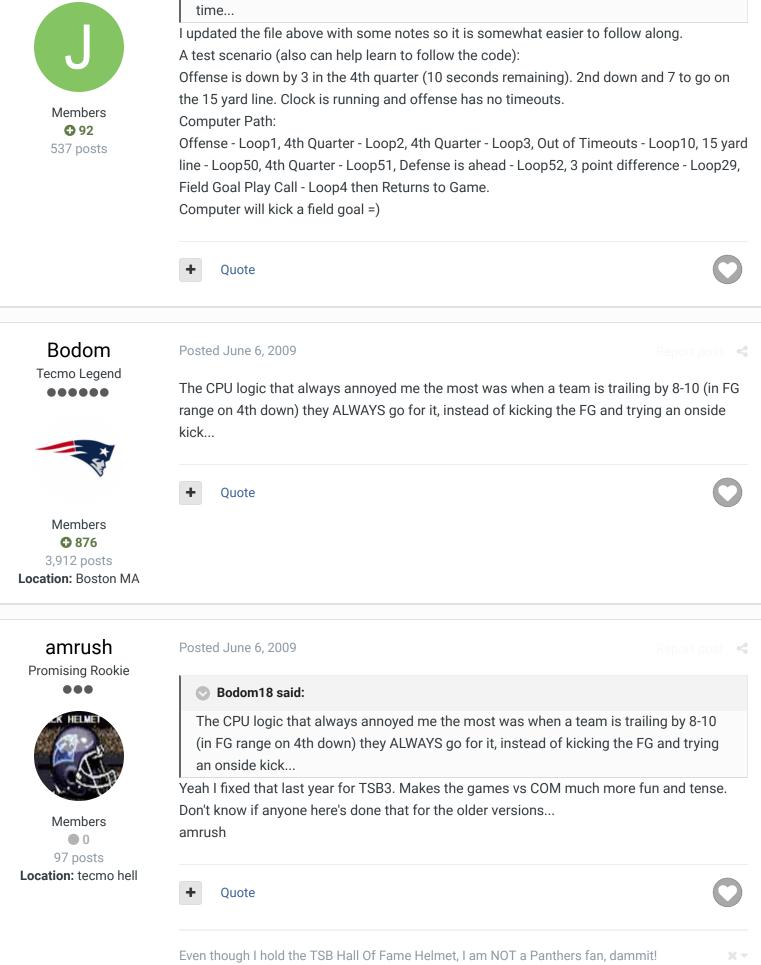
I'm inclined to agree with YM here that the CPU logic's play selection might be considerably less than random. When I altered the CPU logic in TSB3 for 4th down decision-making, I had to adjust factors that the CPU takes into account like yards-to-go, ball location and time on the clock.

It's certainly possible that the CPU goes through similar 'scenario' logic on 2nd and 3rd down (1st down being 100% random would seem very plausible), but given the more

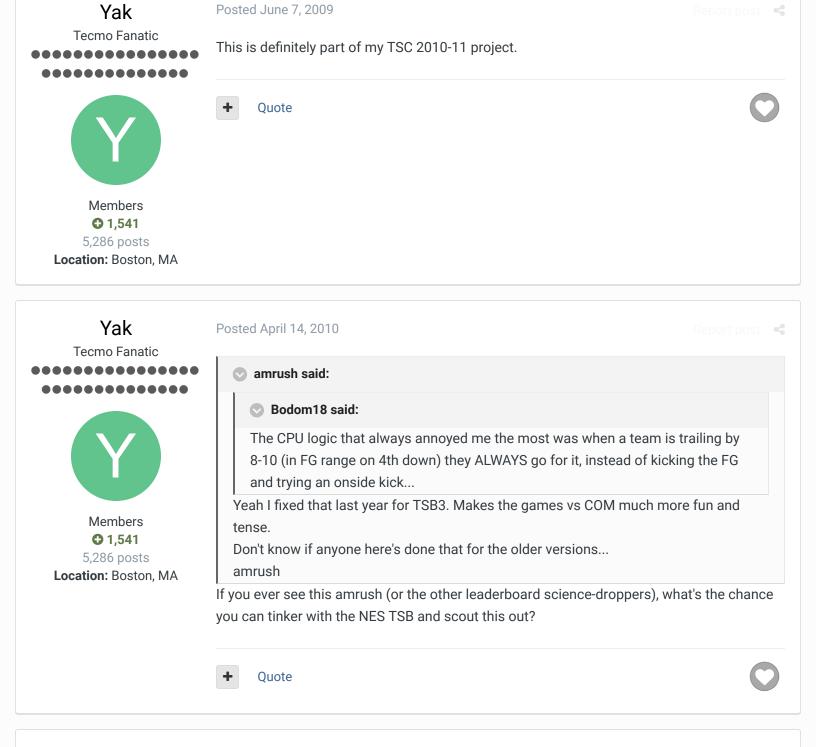


YakMolester said:

That is some fascinating stuff right there. I wouldn't even know where to begin with the questions in my brain. Looks a little like Hebrew to me right now, but maybe in



After 8 f*cking years I actually have an all-time rom I can play... Yay



buck DARRELL GREEN



Members 2,060 6,332 posts Location: Tecmo Super Street Posted May 27, 2014 (edited)

<u>RE: jstout text file</u>

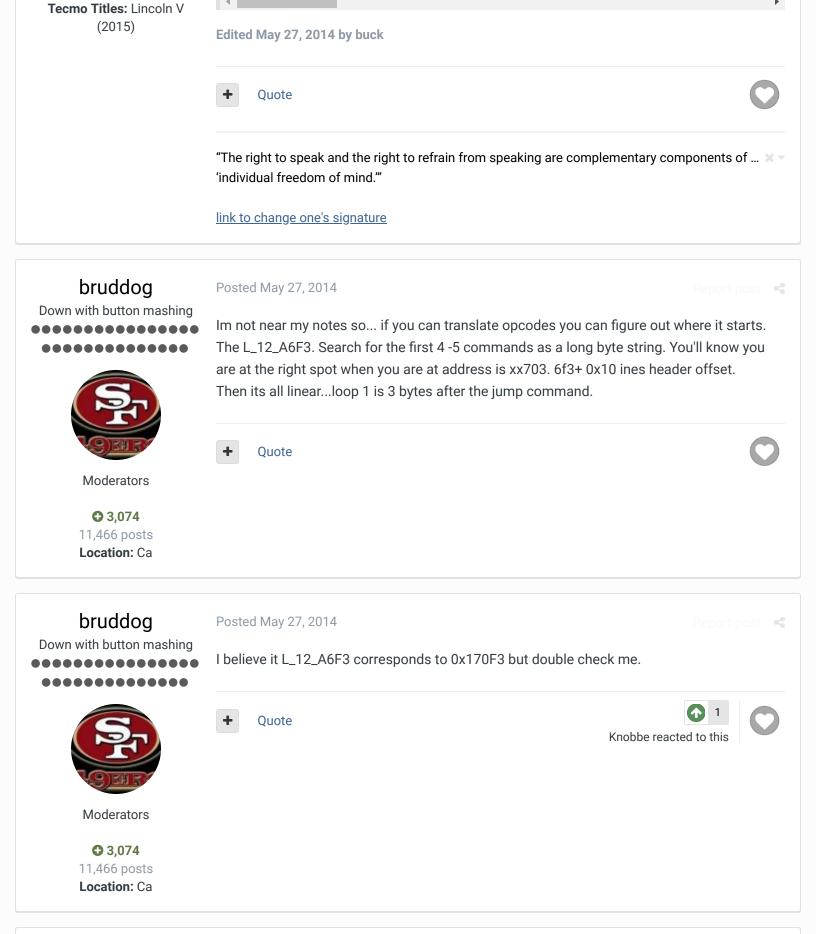
speaking of which....I can read this and translate into opcodes - but I simply can't find it in the rom...could you tell me where the actual rom location of this shizz begins? *Once you point me to the right place, I can sort through the rest I bet.*

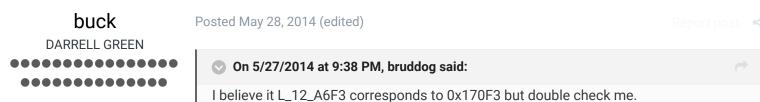
here is a snip for example....where does the code for "LOOP 1" begin as a hex location in the rom?

L_12_9000:

JMP L_12_A6F3L_12_A6F3: LDA #\$00

STA \$40 ; PLAY (







Members **2,060** 6,332 posts Location: Tecmo Super Street Tecmo Titles: Lincoln V (2015) I just did a quick search translating the first few opcodes (A90085408541853E853F) and found it sitting at 0x18703. I'm pretty sure this is it here...Will be digging. Edited May 28, 2014 by buck

Quote

Knobbe reacted to this

Yak reacted to this

"The right to speak and the right to refrain from speaking are complementary components of ... \times \sim 'individual freedom of mind."

link to change one's signature

buck DARRELL GREEN



Members **2,060** 6,332 posts Location: Tecmo Super Street Tecmo Titles: Lincoln V (2015) Posted May 28, 2014

ok, yes it starts at 0x18703. I am now going through all of this code with fine-toothed comb. we'll see how long it takes...

Quote

"The right to speak and the right to refrain from speaking are complementary components of ... st - 'individual freedom of mind."

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buck DARRELL GREEN



Members 2,060 6,332 posts Location: Tecmo Super Street Tecmo Titles: Lincoln V (2015)

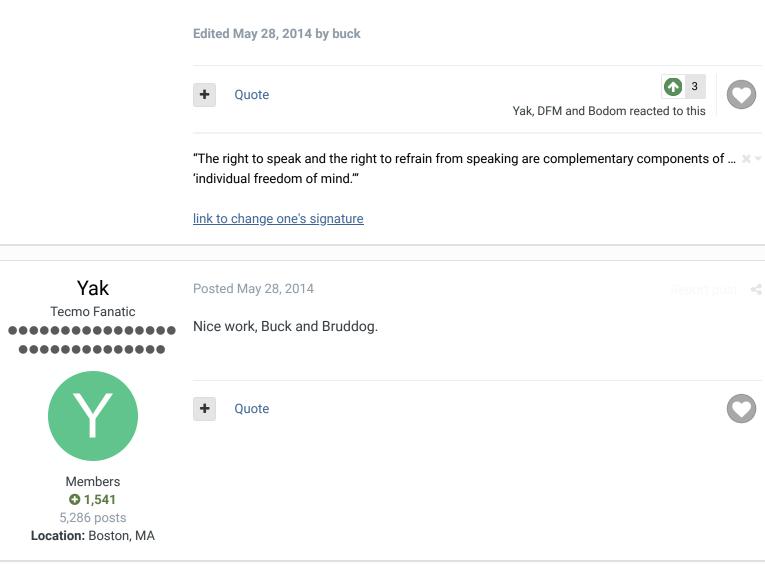
Posted May 28, 2014 (edited)

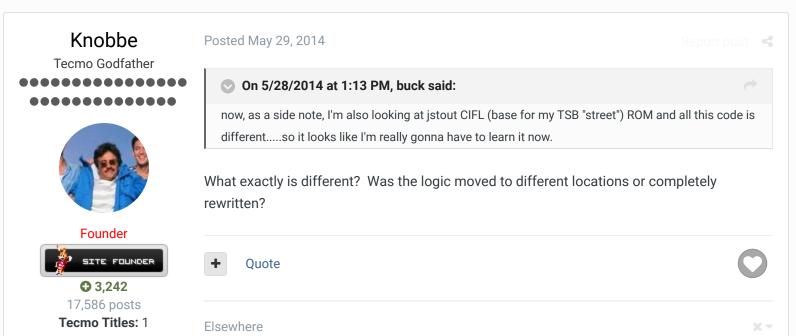
ok, been through it all and wrote down locations of all the loops and actually copied every damn byte in a spreadsheet. most of it is straight forward. I'm working on making an outline or flow, but we'll see how far that goes.

Essentially, this code is how the COM determines what play it will call (uses offensive preference, score, field location, yards to go, time on clock, down, quarter, etc to decide) or if COM will attempt FG or Punt. Also, COM defensive play calling is in here, too, starts at Loop 74.

NOTE - there is nothing about Onsides kicks in this, that I can see!

now, as a side note, I'm also looking at jstout CIFL (base for my TSB "street") ROM and all this code is different.....so it looks like I'm really gonna have to learn it now.





Founder of T-Borg

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"You fail all of the time. But you aren't a failure until you start blaming someone else" - Bum Phillips





Members **2,060** 6,332 posts **Location:** Tecmo Super Street **Tecmo Titles:** Lincoln V (2015) Posted May 29, 2014

Report post 🛛 📢

On 5/29/2014 at 6:11 AM, Knobbe said:

What exactly is different? Was the logic moved to different locations or completely rewritten?

it's not as different as I initially thought, defense is the same, general outline looks the same. but I didn't get to comb all the way through CIFL, yet.

Quote

"The right to speak and the right to refrain from speaking are complementary components of ... \approx – 'individual freedom of mind."

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bruddog

Down with button mashing



Moderators

3,07411,466 postsLocation: Ca

Posted January 25, 2017

Compared my notes vs jstouts original work on this.

COM DEF Timeout logic:

- 1. Not 4th qtr or OT= don't take timeout
- 2. Tied or leading = don't take timeout
- 3. More than 3 minutes left = don't take timeout

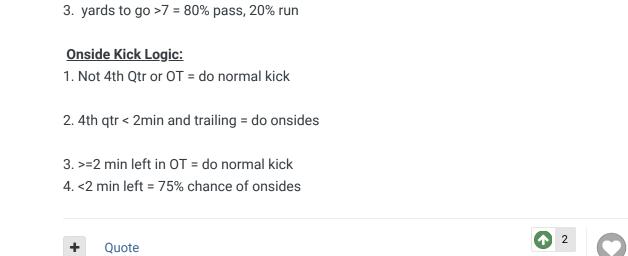
4th or OT and COM is trailing

- 1. 2-3 minutes left = 75% chance of timeout
- 2. < 2min left = 93% chance of timeout

COM DEF Playcall logic:

1. Not 3rd or 4th Down = completely random play call 3rd or 4th down

- 1. yards to go <3 = 80% run, 20% pass
- 2. yards to go between 3-7 = random play call



Tunnelrunner and buck reacted to this

SBlueman

Tecmo Legend



Members 289 1,048 posts Location: San Jose, CA Posted September 3, 2017

On 5/28/2014 at 1:13 PM, buck said:

ok, been through it all and wrote down locations of all the loops and actually copied every damn byte in a spreadsheet. most of it is straight forward. I'm working on making an outline or flow, but we'll see how far that goes.

Essentially, this code is how the COM determines what play it will call (uses offensive preference, score, field location, yards to go, time on clock, down, quarter, etc to decide) or if COM will attempt FG or Punt. Also, COM defensive play calling is in here, too, starts at Loop 74.

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now, as a side note, I'm also looking at jstout CIFL (base for my TSB "street") ROM and all this code is different....so it looks like I'm really gonna have to learn it now.

Did something get lost in this post when the site changed their backend?

I hate when a team goes for it on 4th down by three late in a game when in FG range or when they go for it deep in their territory setting up a b.s. win. How can I begin to understand what to edit in the game from the file jstout posted? And can this be used with a set command?





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Check out my other releases: SBlueman's Downloads

Have any SET commands to share? Post 'em up in this thread: <u>SET Command List (Use</u> with <u>NES TSB & TSBTool)</u>

jstouts original file can still be downloaded. It's at the beginning of this post.

bruddog

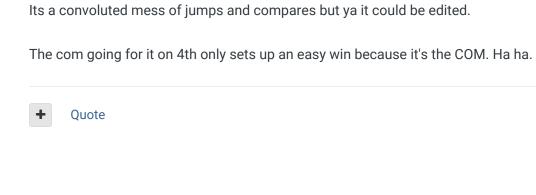
Posted September 3, 2017

Down with button mashing



Moderators

3,07411,466 postsLocation: Ca



SBlueman

Tecmo Legend



Posted September 3, 2017

So it's like setting if conditionals in code, is that right? I just don't know how to decipher what he posted. What should I be searching for to be able to edit this? I see from buck's post that the code to edit starts at 0x18703. After that I am a deer in headlights.

Members 289 1,048 posts Location: San Jose, CA



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bruddog

Posted September 3, 2017

Report post 🛛 🗲

Down with button mashing



Moderators

3,07411,466 postsLocation: Ca

Ya its not easy to explain because its a mess of conditionals. By the time I explain what needs to be done I might as well just do it because it would take just as long. Sorry.

I'm probably not going to work on it anytime. This is ONE section of conditionals that would need to be adjusted.

@Loop30: LDA QUARTER CMP FOURTH_QUARTER BNE @Loop35 ; Go if not Fourth Quarter LDA SCORE_DEFENSE SEC SBC SCORE_OFFENSE BCC @Loop35 ; Go if Offense > Points CMP #\$04 BCC @Loop35 ; Go if < 4 Point Difference LDA QUARTER_MINUTES CMP #\$02 BCC @Loop31 ; Go if < 2 Minutes LDA YARDS_TO_GO_LO CMP #\$11 LDA YARDS_TO_GO_HI SBC #\$00 BCC @Loop31 ; Go if < 2.125 Yards to Go BCC @Loop31 ; NEVER GO JMP @Loop48 ; Go if >= 2.125 Yards to Go @Loop31: LDA CURRENT YARDLINE LO CMP #\$19 LDA CURRENT_YARDLINE_HI SBC #\$00 BCS @Loop32 ; Go if >= 3.125 Yard-Line JMP @Loop57 ; Go if < 3.125 Yard-Line @Loop32: LDA CURRENT_YARDLINE_LO CMP #\$29 LDA CURRENT_YARDLINE_HI SBC #\$00 BCS @Loop33 ; Go if >= 5.125 Yard-Line JMP @Loop62 ; Go if < 5.125 Yard-Line @Loop33: LDA CURRENT_YARDLINE_LO CMP #\$F8 LDA CURRENT_YARDLINE_HI SBC #\$02 BCC @Loop34 ; Go if < 95 Yard-Line JMP @Loop62 ; Go if >= 95 Yard-Line @Loop34: BCS @Loop35 ; NEVER GO JMP @Loop13 ; Go @Loop35: LDA YARDS_TO_GO_LO CMP #\$09 LDA YARDS_TO_GO_HI SBC #\$00 BCS @Loop36 ; Go if >= 1.125 Yards to Go LDA SCORE_DEFENSE CMP SCORE_OFFENSE BCC @Loop29 ; Go if Offense > Points

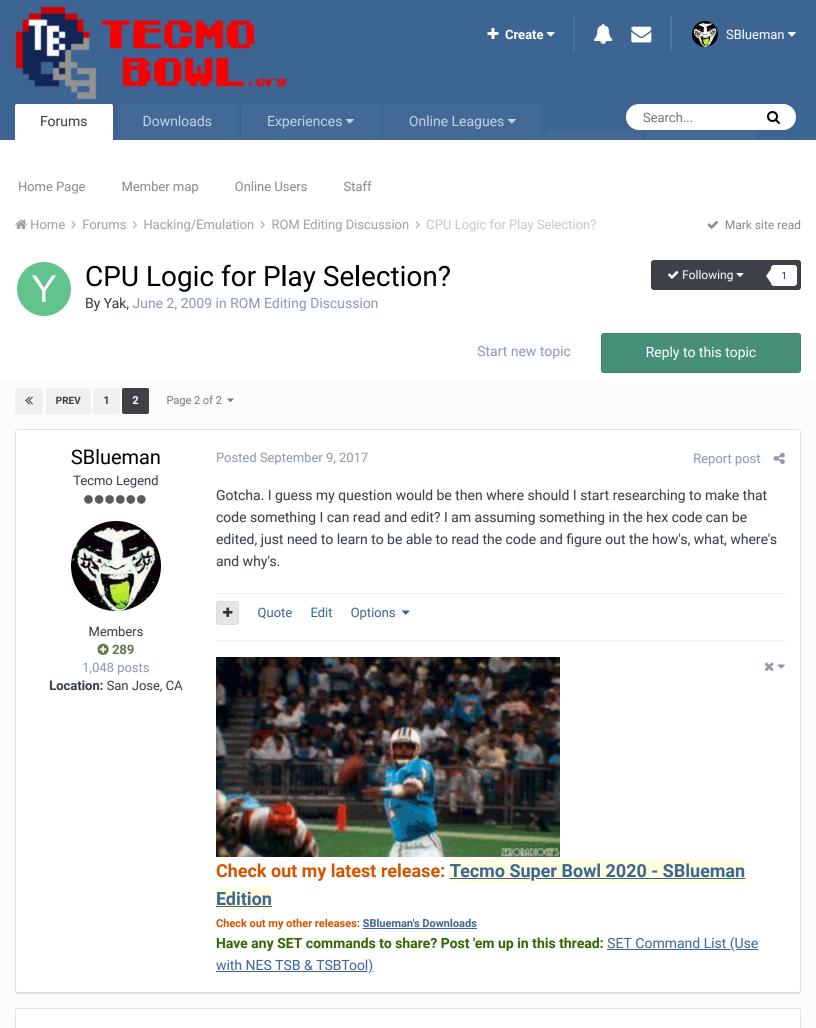
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SBlueman	

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DARRELL GREEN



Members **2,060** 6,332 posts Location: Tecmo Super Street Tecmo Titles: Lincoln V (2015)

On 9/9/2017 at 12:51 PM, SBlueman said:

Gotcha. I guess my question would be then where should I start researching to make that code something I can read and edit? I am assuming something in the hex code can be edited, just need to learn to be able to read the code and figure out the how's, what, where's and why's.

the NES opcodes. then take a microprocessor class.

Edited September 9, 2017 by buck

Quote



"The right to speak and the right to refrain from speaking are complementary components of ... \times \sim 'individual freedom of mind."

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bruddog Down with button mashing



Moderators

3,07411,466 postsLocation: Ca

Posted September 9, 2017

@SBlueman

THe NES is programmed in 6502 assembly language. Jstout put together a nice learning post with links way back.. \...



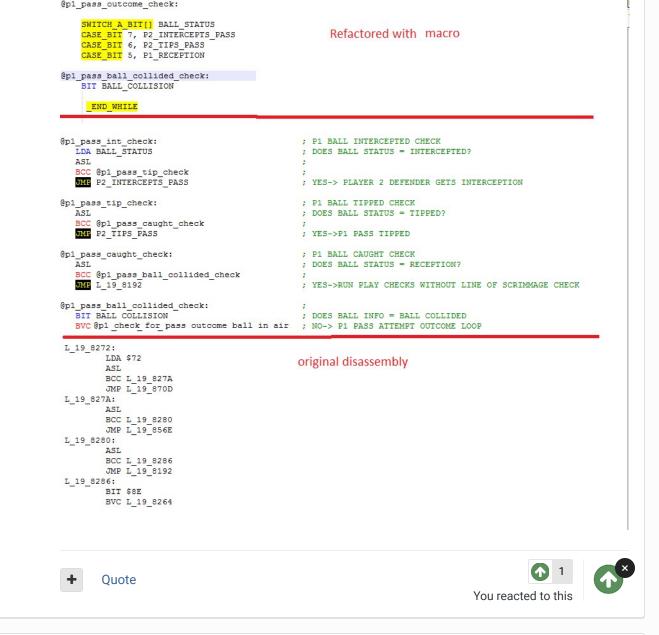
jstout created a topic in ROM Editing Discussion June 20, 2013

NES Programming Info

I'm hoping the links work as this would be cleaner than having a few dozen posts thrown all about. This is still a work in progress with more in the future and the below files are still subject to changes/improvements as I'm not happy ...

6 ● 26 replies

All the comments and such come hour and hours and hours of reverse engineering the game since the original dissassembly is just unamed labels, register values and memory locations. You start with something at the bottom of the picture and a LONG time later get to the top of the picture.



SBlueman

Tecmo Legend



Members 289 1,048 posts Location: San Jose, CA Posted October 8, 2017

Anyy chance anyone who's been smart enough to implement this into a game can share either a set command or ips patch us troglodytes can use? Doesn't hurt to ask, you never know....

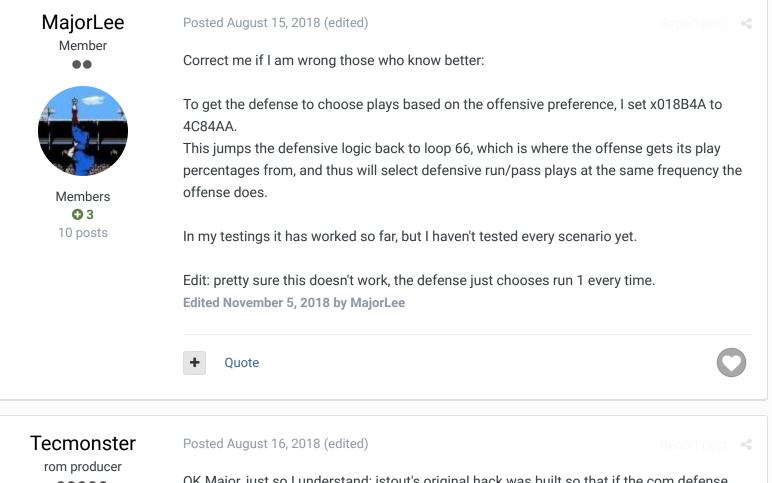




Хv

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Check out my other releases: <u>SBlueman's Downloads</u> Have any SET commands to share? Post 'em up in this thread: <u>SET Command List (Use</u> with NES TSB & TSBTool)





Members **211** 634 posts Location: Reno, NV OK Major, just so I understand: jstout's original hack was built so that if the com defense called a pass play, then there was a 50% chance that it called your favorite (i.e. most-called) pass play and if it called a run play, there was a 50% chance that it called your favorite run play. BUT the computer doesn't factor your run/pass tendency into its initial decision to call a run or pass.

So, with your hack, if all someone does is pass, the computer defense will call a pass 100% of the time, right? That also means that if this is a supplement to jstout's hack, and all someone does is call 1 pass play all game long, then the computer should call that play about 50% of the time, right?

If I have this correct, then this is a brilliant wrinkle to an already brilliant hack. Edited August 16, 2018 by Tecmonster

Quote

MajorLee

Posted August 16, 2018

Report post 🛛 🛋





Members **C** 3 10 posts

Yeah, so basically it just loops it back to the same percentage logic the CPU uses on offense.

The weighting will be based on the percentages you choose to set up from this topic.



buck created a topic in Hacking Documentation

Heavier weighting of COM run/pass ratio?

How/where (0x) is the COM run/pass ratio set? I'd bet there's an adjustable probability setting somewhere - that tells COM to pick a run or pass, using the setting (0,1,2,3). I don't know where to look... I'm specifically interested...

10 replies

So if you set Heavy Passing to xFF, and your team is set to heavy passing, the CPU defense will call pass defense 100% of the time. And then yes with jstout's other logic hack, the jailbreak would take effect still I believe. I haven't been using his logic hack up to this point, so you may want to test that out fully.

Ouote

Tecmonster

Posted August 19, 2018

rom producer



Members **O** 211 634 posts Location: Reno, NV

OK, so you're saying it doesn't track your IN-GAME run/pass play-calling ratio for a MANcontrolled team (since humans call any play they want and don't have to adhere to any weighted ratio settings). Essentially, you added this hack to make defensive play-calling smarter in COM vs. COM games, right?

Quote

bruddog

Down with button mashing -----



Moderators

Posted August 19, 2018

The somewhat cheap method I came up with awhile back was somewhat similar or a modifcation to jstouts jailbreak method.

I had the CPU defense switch to the right play type after the play had been called a certain pct of the time if it hadnt already called the right type.

This was the quickest way to have a fairly compenent cpu playcaller without having a giant logic tree.

3,07411,466 postsLocation: Ca

The worst thing with the cpu is anytime they guess run and you call pass on offense its basically an automatic td.

Quote

MajorLee Member



Members **3** 10 posts

Tecmonster

rom producer

Members • 211 634 posts Location: Reno, NV

Tecmonster

rom producer

Posted August 19, 2018

Yeah I suppose it's most effective in COM vs COM, but it's also just kind of nice to not have the CPU being totally stupid and random like bruddog said. Very annoying when my team is stacked with WRs and a great QB, and yet the CPU keeps guessing run all the time. Maybe only useful to some people making their own custom ROMs, but thought I would offer the solution just in case.

Quote

Posted August 20, 2018

I agree on all counts. Bruddog, so if that "certain pct" you used was, say 33%, then multiple plays might be eligible to be called, right? If so, how did your code handle that?



Posted August 20, 2018

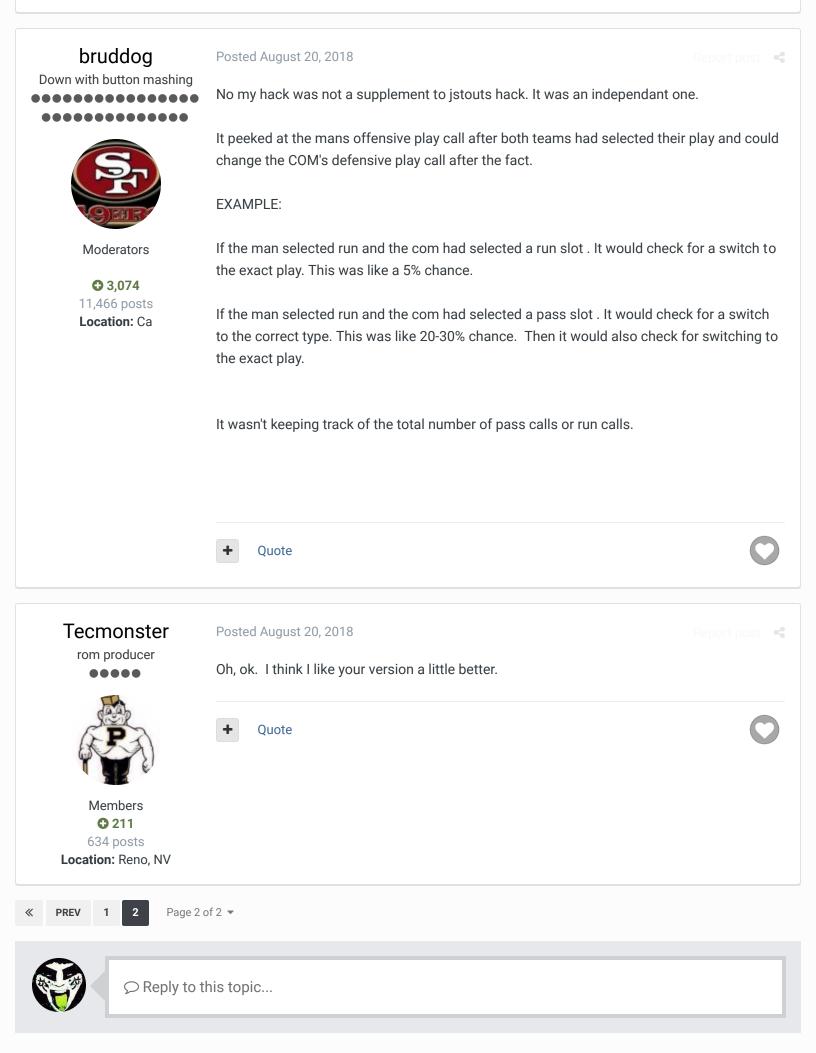
Oh, I think I misunderstood your post. I overlooked where you said play TYPE. So I think you mean that if you've been calling a ton of pass plays, then the computer will call nothing but pass on defense (until you dip below whatever play-calling % threshold you set), AND, if it's a supplement to jstout's hack, then that means there is a 50% chance that your favorite pass play will be called by the computer D. Do I understand that correctly now?



634 posts **Location:** Reno, NV









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SBlueman

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