

Strategic Forfeiting in Double Elimination: flaws in Challenge/Tio's loser bracket

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Strategic forfeiting should never be a viable option. That is, a player in a tournament should never be in a position where losing a match will help them place higher. In Single Elimination, this is obviously never an issue – as soon as you lose a single match, your tournament run is over. Double Elimination brackets is trickier. Depending on how the winner's bracket feeds into the loser's bracket, opportunities for strategic forfeiting may exist. In particular, Challenge's method for feeding loser's bracket does create strategic forfeits. Tio's does not.

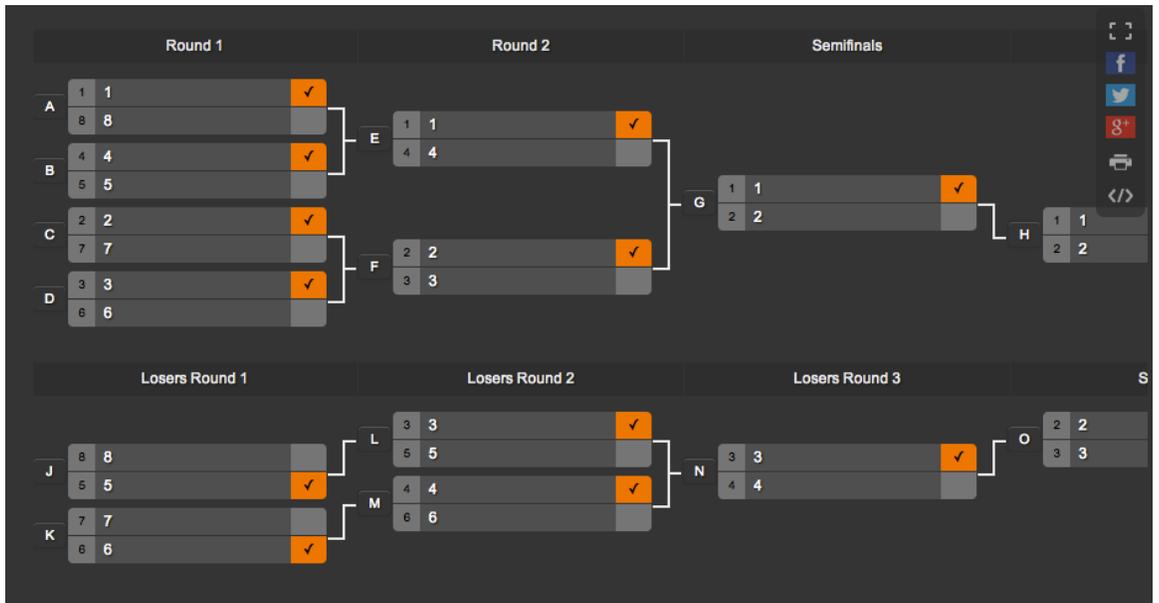
1 Challenge/Tio: Shuffled Loser's Bracket

Challenge shuffles players into Loser's bracket. Consecutive matches in Winner's bracket will feed players into different branches of Loser's. As a result, players can manipulate which branch of Loser's bracket they are fed into by choosing when to lose in Winner's. This is strategic forfeiting.

1.1 Theorycraft

Consider an 8-man double elimination tournament where the players' skill is strictly ordered. That is, 1 always beats 2, 2 always beats 3, etc. 1 always wins, and 8 always loses. Moreover, the bracket is seeded accordingly.

This is how the bracket would play out:



Note that everybody places as they ought to; 1 places 1st, 2 places 2nd, and so on.

Now suppose that in an unexpected upset: 2 loses to 7 first round. Maybe 2 was sandbagging, or maybe 2 suicided a bunch of times, or 7 went super saiyan. Whatever the case, we now have this bracket:



Consider 4's decision. If 4 wins first round vs 5 (as she ought to), then the

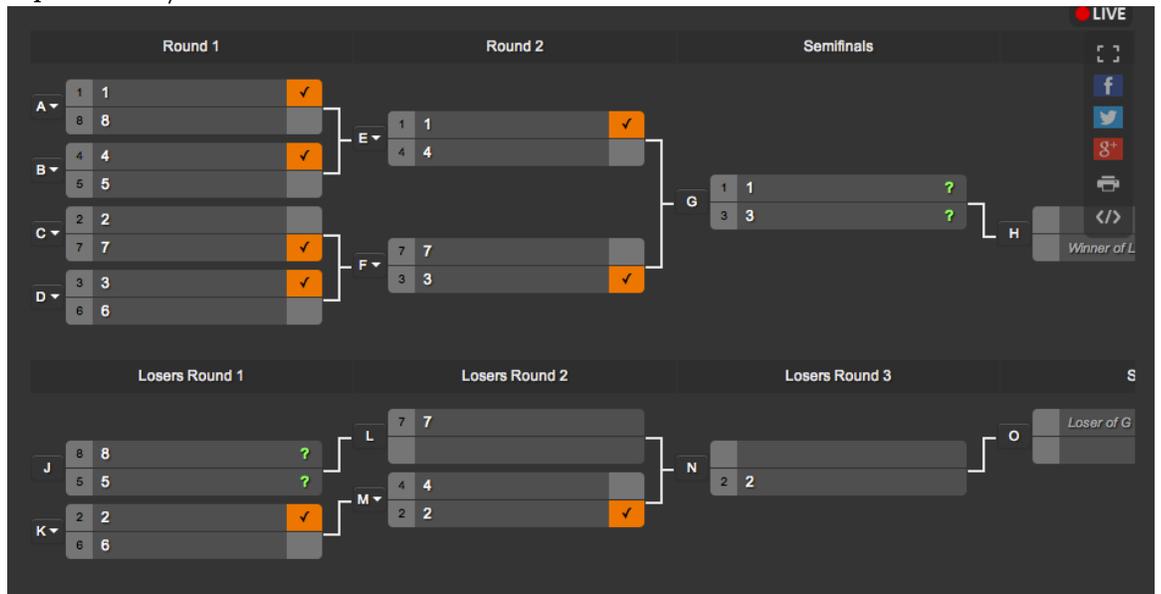
bracket would play out as follows:

4 beats 5

4 loses to 1

4 loses to 2

4 places 5th/6th



Now suppose that 4 purposefully loses to 5, and tryhards every other match.

Her matches play out as follows:

4 loses to 5

4 beats 8

4 beats 7

4 loses to 2

4 places 4th



By intentionally losing to 5 in the first round, 4 is able to obtain a $1\frac{1}{2}$ higher placing. This may not seem like much, but with a larger example (e.g. 32-man bracket) the discrepancy can be much larger.

1.2 Salty Disclaimer / Real Example

I bring this up because the strategic forfeit opportunity actually happened to [me at SWEET XVI](#). A top Michigan player, KJH, lost early in Winner's bracket because he was playing an off-main character. He then tore through Loser's bracket, placing 3rd overall. Along the way, he eliminated me immediately after I had lost to Duck in Winner's, giving me 9th-12th. However, if I had forfeited to Dre in Winner's before facing Duck, I would have been placed into the other half of the Loser's bracket. From there, I might have been able to place 4th (assuming I would beat Shady and 1der, who I beat in money-matches later that day).

2 Parallel Loser's Bracket

The source of this problem is that consecutive matches in Winner's will feed into different sections of the bracket in Loser's. If a particular branch of Loser's bracket has strong players in it, then someone in Winner's might strategically forfeit in order to avoid that branch of Loser's.

There is a way to feed players into Loser's bracket that completely removes the possibility of strategic forfeits. The Loser's bracket would run in parallel to the Winner's, where the same branch of Winner's feeds into the same branch of Loser's. If two players are on the same branch (half, quadrant, w/e) of Winner's,

then they will both feed into the same branch of Loser's. This way, you cannot avoid a particular matchup in Loser's by choosing when to lose in Winner's.

(insert picture here)

The flaw with the parallel bracket system is that many rematches from Winner's will occur in Loser's. If a player has a bad matchup (e.g. ICs v. Peach), then it is highly likely they will be double-eliminated. If a branch of the bracket is stacked, then the parallel branch of Loser's bracket will also be stacked, resulting in early eliminations of strong players.

3 Random Loser's Bracket

Another system which avoids these issues is a randomly slotted loser's bracket. Rather than having preassigned slots where Winner's bracket losses feed into Loser's bracket, those players could be randomly shuffled before being slotted into Loser's. This way, the chance of ending up in the same branch of Loser's as another player is always constant, and you cannot dodge a particular matchup through strategic forfeiting. However, any seeding system involving randomness is at risk for bracket manipulation by the TO.

4 Summary and Afterthoughts

Both bracket systems have flaws. Challenge/Tio shuffle players into different branches of Loser's bracket, and that might create strategic forfeit scenarios. My proposed system runs the Loser's bracket branches in parallel with Winner's to avoid strategic forfeits, but it creates a lot of rematches from Winner's in Loser's.

In our example, we used a linearly ordered list of players and an upset early in the bracket (2 loses to 7). Such a strategic forfeit scenario can occur without an upset if the players' matchups are not linearly ordered (e.g. Marth > Fox > Shiek > Marth). The Parallel and Random Loser's Brackets both solve this issue.

4.1 Sportsmanship v. Play to Win

Point: Demand good sportsmanship! Ban forfeiting and this is not an issue.

Counterpoint: Play to win, motherfucker.