

# The main scoring system

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## Introduction (Each Map Portion)

The score system will take into account of all of the provided statistic of the race and try to calculate the performance of a certain race. Here is all of the current race attribute that will taken into account for the race.

### Race Score Attribute

- Track time vs expected track time - (85% of the total score)
- Placement in the race itself - (10% of the total score)
- Item Usage - (5% of the total score)
- Fall of the map (Up to 20% of total score penalty) - Flat cap at 10

## Introduction (Total Score For Profiles)

The scoring system takes the top 5 race scores for each map and reduces each by a multiplier of  $0.9^{(n-1)}$ , where n is the rank of the score (1st to 5th). These adjusted scores are summed to calculate the effective points for each map, and the total of all maps gives the player's profile score.

## Total point calculation - Each Race

The score of each race will be the sum of the max at 10000 point and the Item Usage bonus scoring multiply by the track difficulty multiplier

### Track time portion (Accounting up to 8500 of total point)

Calculated by

Time Portion Scoring = (Perfection assumption time / Actual time being recorded) \* 8500

OR 8500 if the player drive faster than the perfect run score

Example:

Bobby time was 386998 milisecond map for a map that expecting to complete in 250000 milisecond

Then his score will be:

Time Portion Scoring =  $250000 / 386998 * 8500 = 5490.98$  point for his score portion

If say Lisa finish the race in only 246927 milisecond, her Time portion Scoring for that race will be automatically be 8500 by default

### Placement Portion (Accounting up to 1000 of total point)

Calculated by

Placement Scoring =  $(12 - \text{Current Placement} + 1) / 12 * 1000$

If the player get anything lower than the 12th place. Placement Score portion WILL NOT BE AWARDED

Example: If Lisa got first in the race of the race, she would get

Placement Scoring =  $(12 - 1 + 1) / 12 * 1000 = 1000$  point (perfect score)

Another race with Bobby get 4 in the race, he would get

Placement Scoring =  $(12 - 4 + 1) / 11 * 1000 =$  which would be around 727.272 points for his placement reward

## Item Usage Portion (Accounting up to 500 of total point)

Calculated by

Item Usage Scoring =  $(\text{Actual item usage} / \text{Expected Item Usage}) * 500$

Or 500 if the player use more item than track expectation

Example:

So if for a certain track expecting you to collect 5 item on the race and Bobby only collect 3 item throughout the race. He will have

Item Usage Scoring =  $(3 / 5) * 500 = 300$  for his item usage

Another example with Lisa that she use 6 item during the entire race. She will automatically get 500 as her item usage score

## Total Score and penalty

Calculated by

Total Score = Current total score after adding all of the attribute \*  $(1 - (0.02 * \text{MIN}(\text{Times fall of the map or } 10))) * \text{map difficulty}$

Example: So if you utilizing all of the previous example example of Bobby (which will say fall of the map 4 times during the race) and Lisa (fall of the map once). And the map have the difficulty multiplier of 2.25. Then we will have

Bobby Score =  $(5490.90 + 727.27 + 300) * (1 - 0.02 * 4) * 2.25 = 13,492$  total points Lisa Score =  $(8500 + 1000 + 500) * (1 - 0.02 * 1) * 2.25 = 22,050$  total points (RIP Lisa perfect run)

## Total Point for Profiles

For each map the top 5 race for a certain they will be value at:

Map effective point =  $\text{map score} * 0.9^{(n-1)}$ . With n is the nth highest score of that map (upto 5)

So if we use the example of Bobby with 4 map in the current effective play, with the following data

Map 1 scores: 19375, 18775, 18393, 14856, 12937 Map 2 scores: 33392, 32024, 30283, 29464, 28774 Map 3 scores: 46792, 45992, 45827, 44259, 43027 Map 4 scores: 67284, 65917, 63957, 62384, 61028

Then his effective point for each map will be (will be 0 if there are not enough completion run) Map 1 Effective point: 19375, 16897.5, 14898.33, 10830.024, 8487.9657 Map 2 Effective point: 33392, 28821.6, 24529.23,

21479.256, 18878.6214 Map 3 Effective point: 46792, 41392.8, 37119.87, 32264.811, 28230.0147 Map 4  
Effective point: 67284, 59325.3, 51805.17, 45477.936, 40040.4708

Then his total point for his profiles will be (sum of all of the effective score) 647321.8996