Segment t_n

Segment t_{n+1}

a_{tn}, e_{tn} → a_{tn+1}, e_{tn+1}

$a =$ action space: $-5, ..., 5$

$e =$ emotions vector

$a_{tn+1} = Math.round(e_{tn+1}[\epsilon] - e_{tn}[\epsilon]) * 5$, where ϵ is a specific emotion.
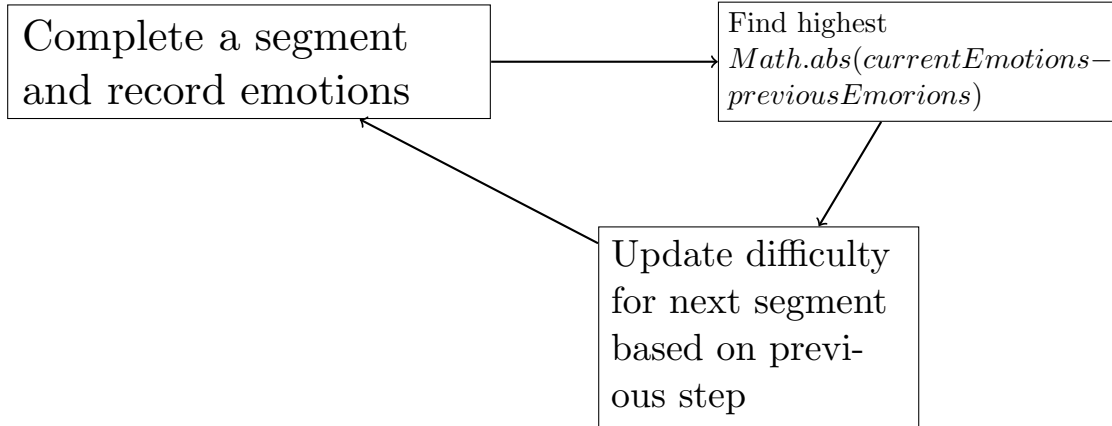
This equation transfers the variation of emotions into the action space. $[-1..1] \rightarrow [-5...5]$

It means that a bigger variation in the player's emotions will cause a steeper change in difficulty.

At each step of the game, difficulty $d_{tn+2} = d_{tn+1} + a_{tn+1}$

$\alpha = 1 - var(e_1)$

$\phi = round(5 \times \alpha \times e_t[Anger])$

Complete a segment and record emotions → Find highest $Math.abs(currentEmotions - previousEmorions)$

Update difficulty for next segment based on previous step

$e_t[Neutral] >= 0.8 \times \alpha$