

Report for TP “West”

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C:\Users\Pasinozavr\source\repos\Project1\Debug\West.exe
A ton tour de jouer! Tu es en 0
Nombres : 3 1 1
1: 3*1+1 7: 3*1-1
2: 3*1+1 8: 3*1-1
3: 1*1+3 9: 1*1-3
4: <3+1>*1 10: 3+1-1
5: <3+1>*1 11: 3+1-1
6: <1+1>*3 12: 1+1-3
Choisis une expression (entre 1 et 12): 6
Also, you decision was the best
Good job, mate!

Ton expression vaut 6
Ton pion avance en 6
Tapez entree pour continuer

A mon tour de jouer! Je suis en 0
Nombres : 2 2 1
Je choisis l'expression : 2*2+1
Mon expression vaut 5
Mon pion avance en 5
Je tombe sur un raccourci
Mon pion avance en 13
Tapez entree pour continuer

A ton tour de jouer! Tu es en 6
Nombres : 1 1 4
1: 1*1+4 7: 1*1-4
2: 1*4+1 8: 1*4-1
3: 4*1+1 9: 4*1-1
4: <1+1>*4 10: 1+1-4
5: <1+4>*1 11: 1+4-1
6: <4+1>*1 12: 4+1-1
Choisis une expression (entre 1 et 12): 1
Also, you may did better choice
Do you want undo it and try one more time? (y/n)n
Ton expression vaut 5
Ton pion avance en 11
Tapez entree pour continuer

A mon tour de jouer! Je suis en 13
Nombres : 3 4 1
Je choisis l'expression : 3*1+4
Mon expression vaut 7
Mon pion avance en 20
Je tombe sur une ville et je passe a la suivante
Mon pion avance en 30
Tapez entree pour continuer
```

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User behavior model

During a game, program saves data about each player's decision and forms model frames. I decided to split model into two directions: skill and luck – first is responsible for making good decisions instead of bad ones, second – for using game features such as shortcuts, city bonuses and collisions. Of course, following the logic of the game, player can't make the best decision if he pays no attention to features. But winning also does not always mean choosing the best strategy.

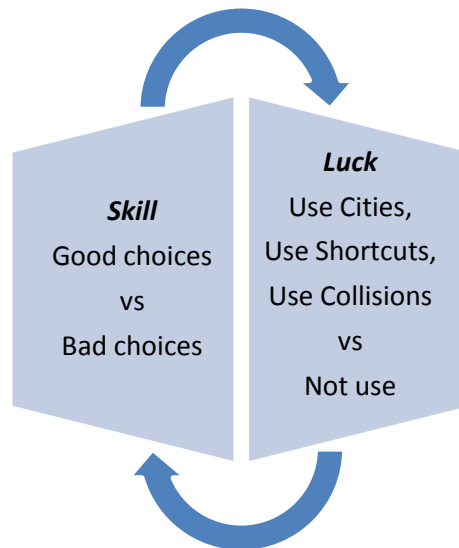


Figure 1. Student model

Advices description

During the game, uses system of advising. It doesn't work if player play its first game (shows notification "Yes, go on, end this first game and I'll show you the truth"). If it's not his first game, it automatically turns on and depending of player's choice shows one of two possible messages:

- "Also, you may did better choice. Do you want undo it and try one more try? (y/n)" for bad decisions (worth than experts)

In this case player can agree and take or disagree and don't take his second chance

- If he disagrees, game just goes on
- If he agrees, system offers new choice showing 12 expressions
- After this decision system doesn't outputs anything

If player makes two bad decisions in a row, system simply texts "Also, you may did better choice. But today's without advices, ha-ha". It means it reposes for 1 round when advising is turned off.

- "Good job, mate!" for good decisions (as good as experts)

By this token, system doesn't show "variables" of luck and skill, if it's first game.

System has storages for number of good and bad decisions (sum of which equals total number) and for number of city visits, shortcuts the way and forced collision. Decidedly collisions are considered bad because of risks.

Values calculating

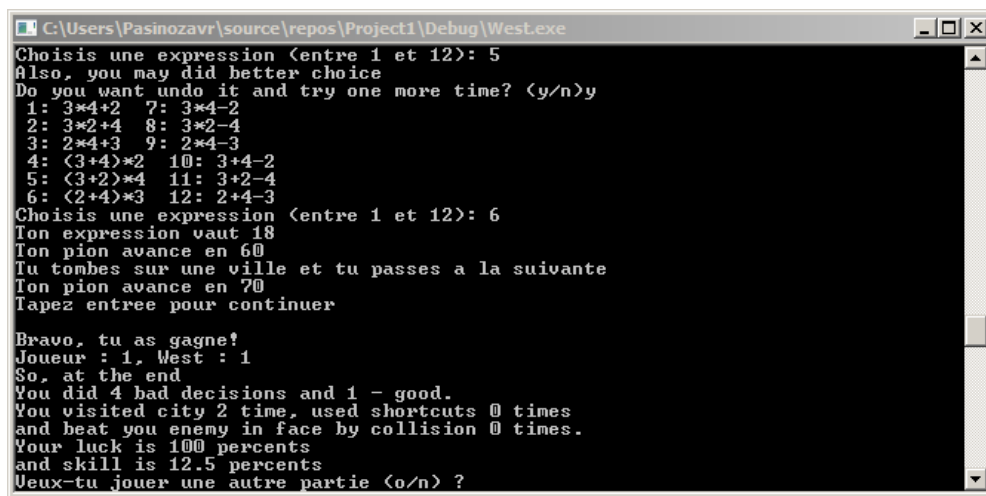
In this way percentage values of skill and luck are calculated as follows:

$$\text{Skill} = \frac{\text{GoodDecisionCounter}}{\text{TotalDecisionCounter}} * 100$$

Equation 1. Simple and believable formula of skill

$$\text{Luck} = \frac{\text{CityVisitsCounter} + \text{ShortcutsCounter}}{\text{CityVisitsCounter} + \text{ShortcutsCounter} + \text{ColissionsCounter}} * 100$$

Equation 2. Similar formula for luck



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C:\Users\Pasinozavr\source\repos\Project1\Debug\West.exe
Choisis une expression (entre 1 et 12): 5
Also, you may did better choice
Do you want undo it and try one more time? (y/n)y
1: 3*4+2 7: 3*4-2
2: 3*2+4 8: 3*2-4
3: 2*4+3 9: 2*4-3
4: (3+4)*2 10: 3+4-2
5: (3+2)*4 11: 3+2-4
6: (2+4)*3 12: 2+4-3
Choisis une expression (entre 1 et 12): 6
Ton expression vaut 18
Ton pion avance en 60
Tu tombes sur une ville et tu passes a la suivante
Ton pion avance en 70
Tapez entree pour continuer

Bravo, tu as gagne!
Joueur : 1, West : 1
So, at the end
You did 4 bad decisions and 1 - good.
You visited city 2 time, used shortcuts 0 times
and beat you enemy in face by collision 0 times.
Your luck is 100 percents
and skill is 12.5 percents
Veux-tu jouer une autre partie (o/n) ?
```

Figure 2. Display values at the end of game loop