Flexible story generation with Norms and Preferences in computer role playing game

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BACKGROUND AND RELATED WORK

BDI(Belief-Desire-Intention) Agents:

- The agents are modelled and implemented using mental attitudes.
- It enables programmers to write abstract procedures.
- It provides flexibility by using plan library.

BACKGROUND AND RELATED WORK

Preferences:

- They are used to describe the kind of game scenario.

- Their value expresses measure of desirability.

BACKGROUND AND RELATED WORK

Norms:

- It is a specified rule.

BACKGROUND AND RELATED WORK

Neverwinter Night:

- This is a third-person role-playing computer game.

AIM

Creating the flexible storyline of computer role-playing game with norms and preferences.

THE GM SYSTEM WITH NORMS & PREFERENCES

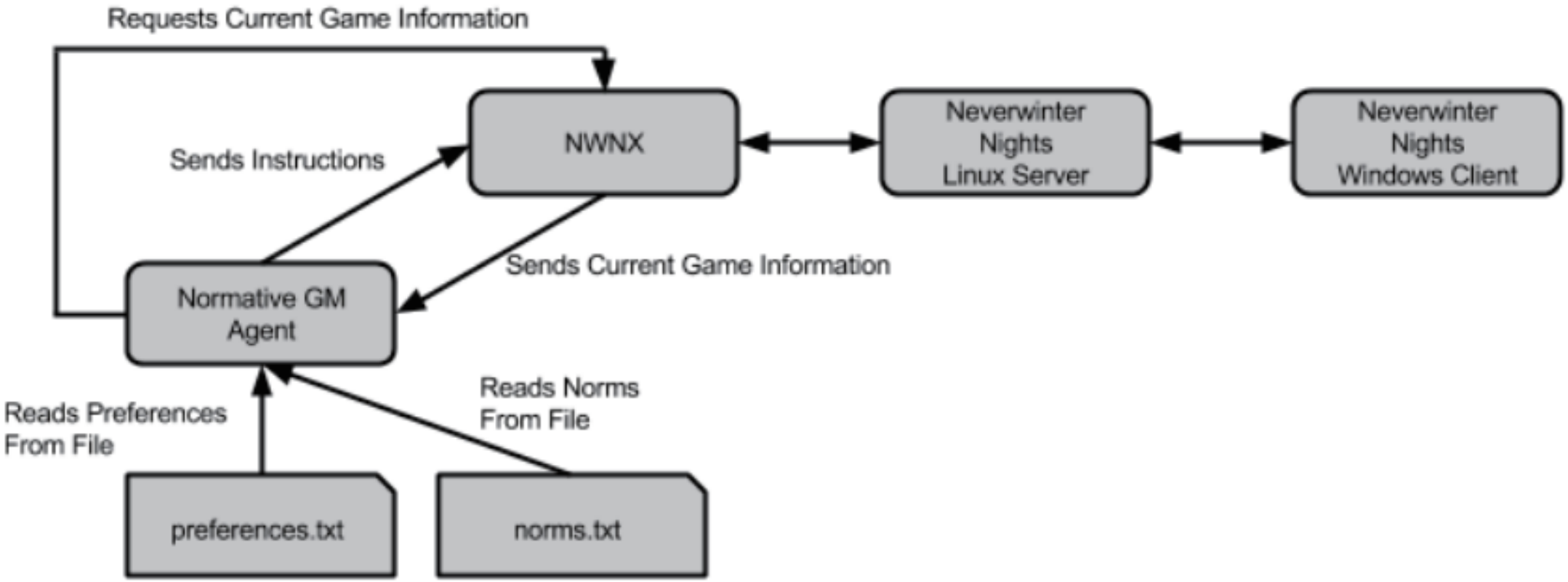


Fig. 1: High Level System Architecture

THE GM SYSTEM WITH NORMS & PREFERENCES

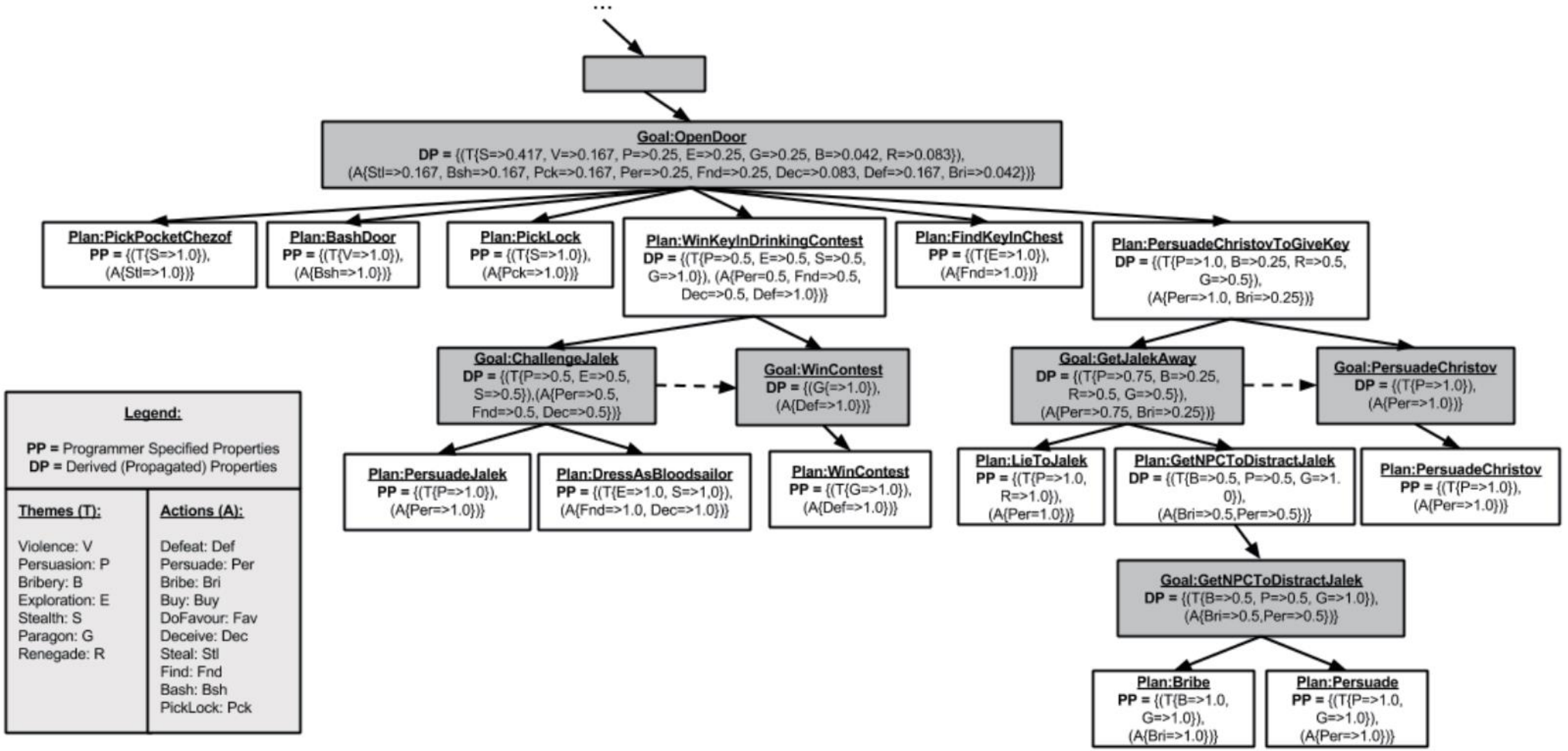


Fig. 2: A Subtree of the GM's Overall Goal-Plan Tree with Propagated Property Summary Information

THE GM SYSTEM WITH NORMS & PREFERENCES

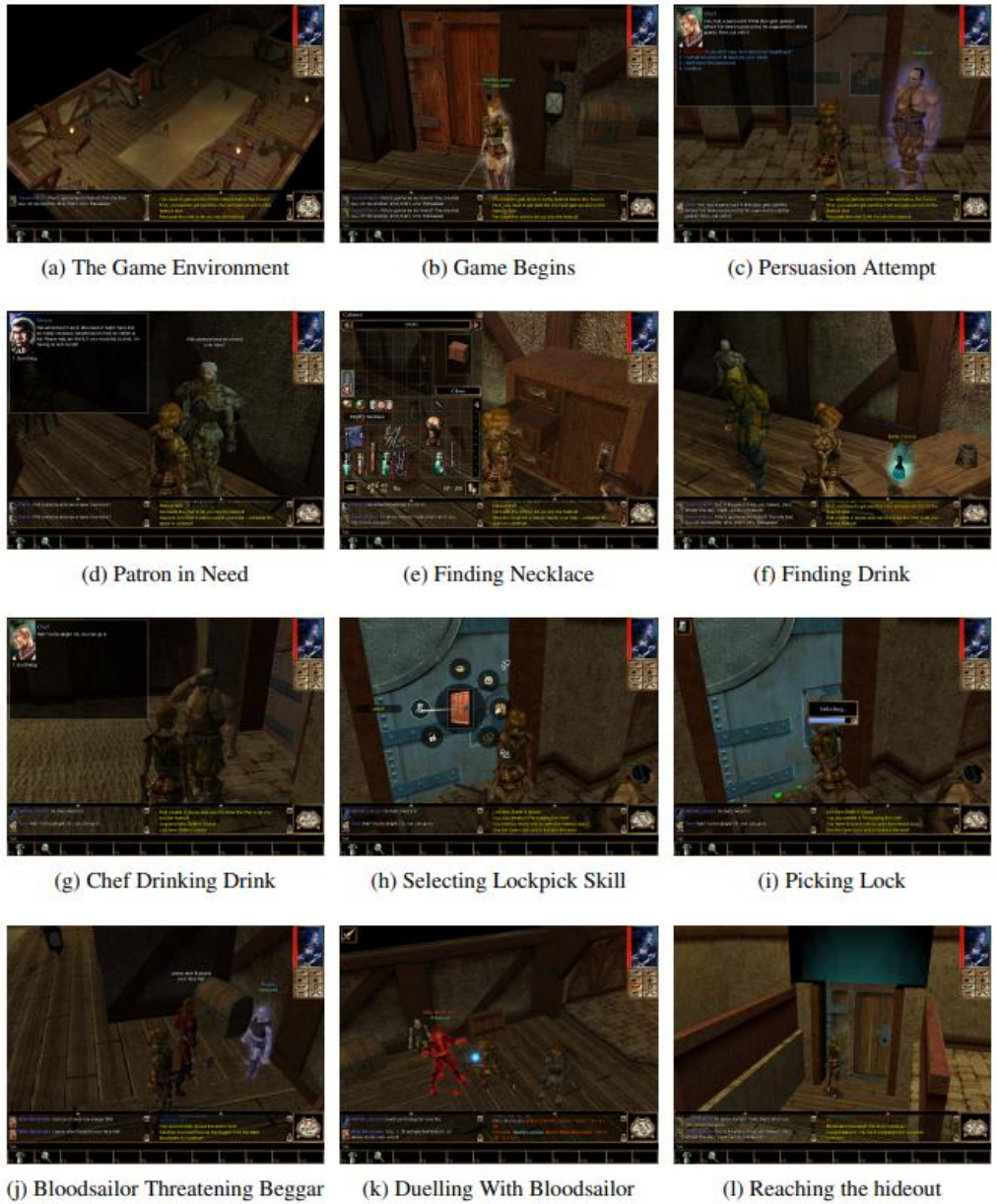
$$\Pr(g_t) = \Sigma_{i \in children(g)} \frac{\Pr(i_t)}{|children(g)|}$$

$$\Pr(l_t) = 1 - \prod_{i \in children(l)} (1 - \Pr(i_t))$$

$$S_l = \Sigma_{i \in (themes(r) \cap themes(l))} weight(r_i) \times \Pr(l_i)$$

EVALUATION

Link(case study) http://goo.gl/U777M1



(a) The Game Environment (b) Game Begins (c) Persuasion Attempt

(d) Patron in Need (e) Finding Necklace (f) Finding Drink

(g) Chef Drinking Drink (h) Selecting Lockpick Skill (i) Picking Lock

(j) Bloodsailor Threatening Beggar (k) Duelling With Bloodsailor (l) Reaching the hideout

Figure 1: Storyboard of the case study playthrough

EVALUATION

1.Which system produced the type of gameplay you described in your preferences?
Answered on a 5 point Likert scale labelled “1-Definitely System A” to “5-Definitely System B”
2.Which system best enforced the norms you defined?
Answered as (1).
3.Which system best produced the type of narrative you were trying to achieve with the preferences and norms you specified?
Answered as (1).
4.With regards to the system which performed better in the above 3 aspects, how well did the system satisfy the preferences and enforce the norms you defined?
Answered on a 5 point Likert scale labelled “1-Only Slightly” to “5-Very Well”
5.Given minimal training and experience with the system, how easy are the preference and norm definition languages to read and use?
Answered on a 5 point Likert scale labelled “1-Very Difficult” to “5-Very Easy”
6.How suitable do you think this approach of specifying gameplay via preferences and norms would be to designing video games with flexible narrative?
Answered on a 5 point Likert scale labelled “1-Not Suitable At All” to “5-Highly Suitable”
7.What are the positive aspects of the system, if any?
Answered in a text box which accepted a paragraph
8.What aspects of the system are in need of improvement, if any?
Answered in a text box which accepted a paragraph

EVALUATION

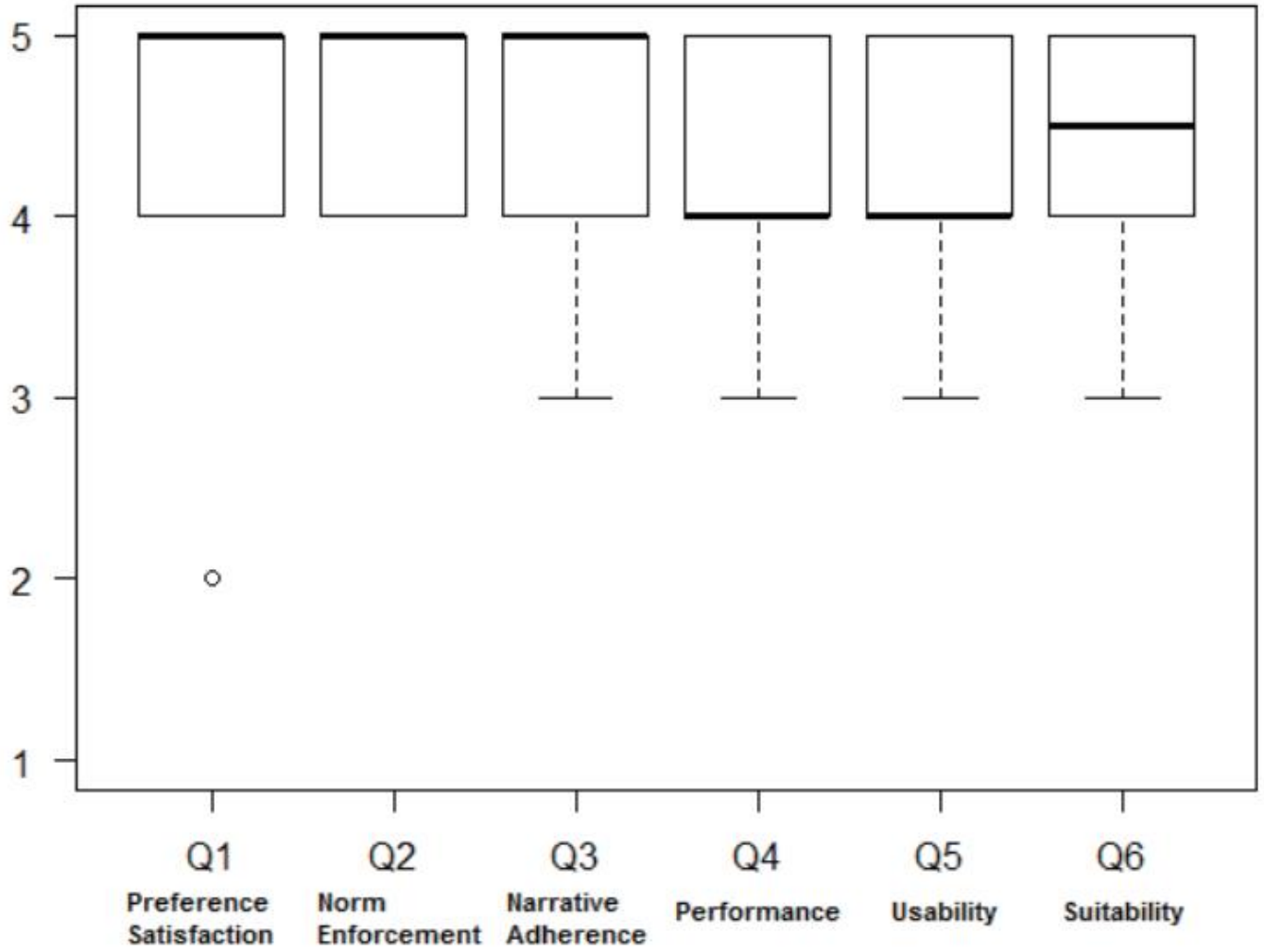


Fig. 3: Box plot detailing the spread of results.

CONCLUSION

Expanding expressiveness with maintain usability

Thank you for your attention!