Product Planning

GROUP: Gamygdala-Integration:
B.L.L. Kreynen
M. Spanoghe
R.A.N. Starre
Yannick Verhoog
Joost Wooning

May 11, 2015

Contents

1 Introduction

For our context project we work in a large group that is subdivided into different smaller group. In total we have 4 groups of 5 students that work together. The common goal is to create a virtual human for the serious game called Tygron. Not only we will create a virtual human that plays this game, we will also implement its emotions. The virtual human will be created in GOAL. Our specific task is to provide the group that will create the agent with a emotional engine. The emotional engine we will use is is called Gamygdala. It is not our task to implement this, since it is already present, but it is our job to integrate it in GOAL in a way that programmers, like the other groups, can make use of this when creating virtual humans. Specifically this group will create an integration of the Gamygdala engine in the programming language GOAL.

First of all this document will describe the product's requirements based on the MoSCoW method. More information on this method is found in the glossary. Secondly, a road map is specified where you have an overview of the sprint weeks and the tasks that will be worked on each week. Furthermore a list of user stories is given. These are numbered so that in the road map and in the release plan it is very clear which tasks and user stories are linked together. Finally there is a section on the Definition of Done. This involves all the specific agreements on when a certain task is completed.

2 Product

In this section you can find the specific tasks our product should fulfill.

2.1 High-level product backlog

By using the MoSCoW method we can subdivide the high level specifications into the following. The subsections decrease in importance or priority. This means that for example the MUST-haves are way more important to implement than the COULD-haves. This method is very handy and more information can be found in the glossary or references.

Must haves

- An agent in goal must have an equivalent in Gamygdala.
- The agent's goals in GOAL should also be present in Gamygdala for that agent.
- It must be possible to define how good or bad a belief is for goals.
- It must be possible to define relations between agents in GOAL.
- It must be possible to have these relations also present in Gamygdala.

- It must be possible to retrieve the emotional state of an agent in the same way as his beliefs.
- it must be able to setup initial emotion of an agent.

Should haves

- It should be possible to set the gain to a specific value.
- It should be possible to set the decay to a specific function.
- The Gamygdala goals and its properties should be possible to change. This also includes the relations regarding beliefs and goals.
- It should be possible to display the emotional states in the simple IDE for debugging.

Could haves

- It could be possible to set a custom decay function.
- It could be possible to change relations during runtime.
- It could be possible for an agent to reason about other agents emotional bases.

Won't haves

- eclipse plug-in

2.2 Road map

- week 1: seminars
- week 2: understanding Gamygdala by testgame
- week 3: setting up goal and research on both goal and Gamygdala.
- week 4: agents in goal should get in Gamygdala their equivalent + goals. relations between agent/goals definition/
- week 5: Extra mental database for emotions of an agent. Retrieve emotions.
- week 6: debug tool + updating relations (between believes/goals agents/agents) + setting gain/decay function
- week 7: implementing ability to set custom decay function
- week 8: used for tasks that are not finished
- week 9: used for tasks that are not finished
- week 10: presentations + finishing

3 Product backlog

In this section you can find an overview of the backlog and release plan.

3.1 User

We define a user as a programmer that wants to use GOAL to develop an AI identity. While doing this, he wants to involve emotions and develop his identity in such a way that he can use emotions to trigger actions, but also actions in the environment (via percepts) that change his emotions would be very handy for the user. The user has a good understanding of the programming language GOAL. He has a very small understanding of Gamygdala.

3.2 User stories of features

- As a programmer I want to be able to define a relationship between beliefs and goals so that these effect the emotional state of the agent. It must be similar to define goals in GOAL.
- As a programmer I want to be able to define relations between different agents.
- As a programmer I want to be able to run my GOAL-agent and see the emotional state he is in.
- As a programmer I want to be able to query the emotional base in the same way as the believe base. This so that the agent can reason about it.

3.3 User stories of know-how acquisition

- I want to be able to get a better understanding of Gamygdala by reading through the documentation so that more complex things could be implemented.
- As a programmer I want to be able to get a better understanding of the integration of Gamygdala in GOAL by reading documentations or papers. This so that I can reason about it and create more complex solutions.

3.4 Release plan

3.4.1 Milestone 1 - week 6

For week six we need to have a working version of basic integration so that the other group creating the virtual human is able to use this and experiment. If we don't give them any version to work with, it will be too late for them to use the integration of the Gamygdala engine in GOAL. Minimal features are the features we planned until week 6.

3.4.2 MileStone2 - end

At the end we need to finish our product. The real minimal features are the must haves we have defined earlier. The bare minimum is thus that the features of milestone 1 work perfectly and are tested thoroughly.

4 Definition of Done

We consider something as done if:

- test coverage of at least 75%
- documentation of new implemented things must be present
- at least two other colleagues agreed on the implementation ans also consider it as done.

References

[1] GOAL programming language http://ii.tudelft.nl/trac/goal

[2] Gamygdala emotion engine http://ii.tudelft.nl/~joostb/gamygdala/index.html

[3] MoScoW method http://en.wikipedia.org/wiki/MoSCoW_method)