Product Planning

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1 Introduction

This Product Planning document gives an overview of the current user stories and release plans as of week 3 of the Contextproject. For the purposes of this document, all user stories will be written from the perspective of GOAL agents (i.e. the group making the Virtual Human), who will ultimately use the EIS to control a Tygron entity. The purpose of the EIS is to translate simple actions from GOAL agents to the more complex environment of Tygron and fill in the blanks.

2 High-level product backlog

The Tygron entity can take on a role in the building project, such as municipality, housing corporation, inhabitants, company etc. These rolls have different privileges and actions they can perform. The GOAL agent should have all the basic actions of a Tygron entity, which include transferring money, buying and selling land, and demolition. Depending on the specific role of the agent in the game, there should be actions available for building parks, roads, housing, leisure buildings, and any other actions available to this role in-game. The agent should also receive information from the game in the form of percepts. The level of abstraction should be adjusted so the agent is not burdened with unnecessary information or required to know the exact location and dimensions of a building project.

3 Product backlog

The MoSCoW method below illustrates what user stories will be considered for the final product. This method is used to understand the most important requirements and the order in which they should be developed by prioritizing them. The MoSCoW method stands for must, should, could, and won't. Must have requirements are requirements which must be in the product before it is released. Should have requirements should be in the product, but the project's success does not depend on it. Could have requirements could be in the product if it does not hinder the development of higher priority requirements. Won't have requirements will not be in the product before its release.

S3 will most likely not be a feature of the final product, because roads require a very specific placement for them to be functional, which can only be determined by an actual human.

Must have	Should have	Could have	Won't have
S2	S5	S1	S3
S4	S6		
S7			

The user stories are described in the sections below.

3.1 User stories of features

1. An agent should be able to transfer money to any other stakeholder, so it can not only further its own interests, but also cooperate with the other stakeholders.

2. An agent should be able to build, demolish, and buy or sell land, by only providing the cost and the number- of floors (if applicable). The EIS will determine the location, the size, and how the building actions are divided over the land so the agent is not burdened with information irrelevant to the decision making process.

3. An agent should be able to build roads if it is within its privileges, so it can perform all actions of its role.

3.2 User stories of defects

This is, in the current situation, not yet applicable to the project, as no features have been implemented yet. Therefore, no defects were encountered.

3.3 User stories of technical improvements

This is, in the current situation, not yet applicable to the project, as no features have been implemented yet. Therefore, no technical improvements have yet been necessary.

3.4 User stories of know-how acquisition

4. An agent should know its role and permissible actions at the start of the game, so it knows which actions it can perform and which interests it should have.

5. An agent should be able to know its budget and the size of the land it has ownership of, so that it can make building decisions which maximize its profit.

6. An agent should be informed whether decisions are approved or not, so it does not base its decisions on false assumptions, e.g. being rejected for buying land and then trying to build on said land.

7. An agent should be informed on actions performed by other stakeholders, so it can accept or reject actions that concern its role or land. Actions that do not directly involve the agent may also be of use in the decision making process.

3.5 Initial release plan

The project plan starts in week 4 and ends in week 9. A first release must be finished in week 6 for the initial input for SIG. A final version must be ready for the final input for SIG in week 9. Giving roughly 3 weeks of work per release.

Release	User stories
Release 1	S2 S4 S5
Release 2	S1 S2 S4 S5 S6 S7

User stories 2, 4, and 5 will be implemented in both releases.

4 Roadmap

The Roadmap below shows which user stories will be implemented per week. The full description of the user stories is in the Product Backlog.

Week	User story
Week 4	S2
Week 5	S2 S4
Week 6	S2 S5
Week 7	S2 S7
Week 8	S6
Week 9	S1

User story 2 is of the highest priority, as it encompasses most features of the end product. It will be spread out over multiple weeks, because it requires the most work.

5 Definition of Done

User stories are done when the user's tests for the particular feature succeed. The GOAL agent must be able to receive percepts and perform actions successfully. Sprints are done when the relevant user stories have been implemented to a satisfactory level, i.e. approved of by the project group working in GOAL, or when the finished features work properly. Features that are not finished in the appointed week will be implemented in the week that follows. Releases are done when all relevant user stories have been implemented and pass all tests by the GOAL agent. Releases which do not contain all planned features will be released without those features. Said features will be implemented before the next release date.

Glossary

action Information sent from a GOAL agent to the Tygron Engine..

agent A GOAL agent that derives its choice of action from beliefs and goals..

EIS The Environment Interface Standard has been developed to facilitate connecting software agents to environments. EIS site.

GOAL GOAL is an agent programming language for programming rational agents. GOAL site.

MoSCoW A technique used in projects to prioritize requirements. These priorities are used to determine which requirements will be the in the product and which will be implemented first.

percept Information sent from the Tygron environment to a GOAL agent..

stakeholder A player in a project made in the Tygron Engine..

Tygron Tygron Engine is online 3D project software for urban planners, architects and engineers. Tygron site.