

Inception

Team Koala

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Background, Client goals and motivation

The clients are the researchers in planning models, and they want to create a visualization tool that is used for helping them or other users with the visualise sequential solutions of AI planning problems specified in the language PDDL. For now the process of the AI planning language PDDL is hard to interpret, and when a problem happens during executing the program, the users have to review the whole code several times to locate where the bug is. This product generates the animation to explain AI planning problems, and it has functions to illustrate the reason and behavior of each PDDL code using the animation steps.

Therefore, the client goals:

1. Helping the user to visualise the process of the execution of PDDL- like AI planning language, so that the debugging steps are easy to be performed.
2. With the animation of the execution steps, the users would have a better understanding of planning problems.
3. For non-technical audiences, they would be able to be aware of what is happening without having the knowledge for AI planning algorithms.

Requirements

Client has a several requirements which has to be finished are:

1. Integration of the plannimation module with a plugin. Because by integrating the plannimation through a plugin the users can install the plannimation through the online pddl editor or through the plugin menu.
2. Loading the plannimation module

By loading users are able to access the plannimation module by url or by installing the pddl module.through online pddl editor. So that users should be able to access and use the plannimation module.

3. Building the visualization from problem pddl file
4. Building the visualization from the solution vfg file.
5. Export the animation feature
6. Planning visualizer.

The requirements which are mentioned from 1 to 6 are the inscope for the product of this project.

The out of scope requirements are the requirements which are out of scope during the development stage.

1)The main focus of the project is to develop the javascript frontend and substitute existing unity with pixjs.so the team will mainly focus on frontend development and hence will not modify the backend during the development stage.

Constraints:

1)Due to the current covid situation the current learning has been made online so it is difficult for the whole team to communicate together as some of the team members are living in different countries so it would be difficult to communicate due to time zones and implement the project together so technically it could affect the efficiency of the team during development stage.

2)As this project has already been implemented and we as a team have to improve the existing application so all the team members have to understand the source code and analyse the project so it would take a lot of time so the efficiency will be affected at the initial stage of the project.

3)the team would not be familiar with the development tools as the team doesn't have enough developing experience so there might be low efficiency during the starting stage.

4) As the team are also enrolled in full-time studies, so they need to balance their time between the studies and project

5)As this project has a specified due date for the final prototype which is of 2 months, the team has to develop and test the prototype within this time frame and deliver the suitable product

User Story Table:

ID	Story Description	priority
1	As a user, if I choose to upload a VGF format file for visualization purpose.	Must have
2	As a user, for using the web based application.I can able to find the user	Should have

	manual for helping to operate applications.	
3	For learning how to operate the animation. As a user, I could find a demo video.	Should have
4	For generating the Animation option.As a user if i could upload Animation PDDL,Domain.	Must have
5	As a user if i could choose to pause or play the animation	Should have
6	As a user if i could able to move to the previous step	Must have
7	As a user if i want to play with the high speed	Must have
8	As a user if i want to play with low speed	Must have

Risk impact analysis

Risk id	Risk type (business/project risk)	description	impact	probability	justification
1	project	The development team might not able to deliver by the due date	60%	5	As the team members are currently enrolled in full time studies they might

					have assignments and other projects.
2	product	Maintenance of the website cannot be promised	70%	4	As the development team or testing team cannot guarantee the maintenance of the website.
3	Project	The scope of the project may be changed during the whole project	50%	4	The client may add the new requirements or change the requirements during the development phase
4	project	Since some of the students may drop the subject during semester so losing team might happen	10%	8	So some of the students might drop the subject so it would result in losing the team
5	business	During management of the project there may	30%	4	Due to the lack of technical experience with the

		be a bad management due to which low effectiveness might happen			tools the team may perform poorly.
6	product	If the proposed framework pixjs cannot deliver the required result	40%	5	Choosing the wrong framework by the teammates might result in missing some important requirements so changing requirements might take a huge amount of time.

Business value(non financial & financial benefits):

This project is of considerable business value for the client Dr.Nir Lipovetzky because as a client wants to maintain its current features and integrate with new development tools and plugins so that client is able to extend the features and maintain the online editor accordingly.

The students are able to gain experience on working on the real time project and the development experience which could be useful for future career opportunities.

Plan

No.	Activities	Time
1	Evaluate project scope and risks	22 Aug
2	Develop software development plan	23 Aug
3	Discuss with client about the focus of this project and receive client feedback for the development	28 Aug
4	Determine what can be accomplished in the sprint and find items from the backlog that can achieve the proposed goals	30 Aug
5	Sprint 1	19 Sep
6	Sprint 2	24 Oct

Development Environment

Tools	Purpose
Confluence	Create, collaborate and organize files and documents for the project
Trello	Task Management
GitHub	Source code management
Slack	Group communication
Node.js	Project Development

User story

ID	User	Story	Story Point Estimate
1	Client	I want a VSCODE plugging for PDDL integration that can be installed through the PDDL editor.	
		I want a tool to visualize the AI planning problems in PDDL.	
		I want to keep the current frontend functions.	
		I want to replace the current Unity code with PixiJS.	