AUTOMATION + FORMULA INFINITY

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This is a document outlining the direction for a potential cooperation between the Formula Infinity team and Camshaft Software, creators of Automation.

INTERESTS

The mutual interest between the parties is the possibility to create a version of Automation used for higher education. Camshaft already has plans for creating such a version when their time and resources permit, and the Formula Infinity team has been debating between focusing the project on raising the interest of young students, or creating a game used within university level education. The latter would suit this project very well.

SCOPE

The Formula Infinity team wants to streamline the game according to educational practices within the discipline, but also highlight parts of the modern automobile industry, especially sustainability.

The Automation team wants the game to keep its focus on pure vehicle performance engineering. The game does not cover driving simulation, although it is possible to export your vehicle to the game BeamNG (with which Automation is collaborating) for driving. The game does support simulating the time it would take your vehicle to complete a racetrack to evaluate your construction.

The game currently contains construction challenges where the player constructs a full vehicle or a subsystem (an engine, etc) according to certain specifications and goals. These are very relevant for the collaboration.

Worth noting is that there is an additional dimension to Automation in the making, which makes it a Tycoon game. Your vehicle will be mass produced and the game tells you how it is selling and how well it does with different customer segments, ranging all the way from automobile racers to commuters or families. This is also a very interesting aspect to work on together.

USER INTERFACE

One part of the project would be to make a UI rehaul of the current game. A team of pedagogical researchers together with educators and game developers could make this a joint project. The contents of the game would be outlined together and user journeys would be created for a chosen number of personae. Among these would also be educators and students. Based on this a UX specification and UI design would be presented for Camshaft to implement. For this to be of good use to the Automation product in general, the UI should be designed primarily with the core user (the target player audience of the regular game) in mind.

SUSTAINABILITY

An increasingly more important aspect of modern vehicle construction is sustainability. This is an important part of the project for the Formula Infinity team. Largely, the way Automation has been built, this aspect is not too hard to cover.

A key part of modern vehicle construction is electrification. This is reasonably easy to implement, by simply adding electric engines to the game. These are not as complex as combustion engines, and the Camshaft team estimates that adding them is not too hard a task.

Overall vehicle sustainability is a slightly more complex topic. This includes driving pollution, fuel usage, materials, production and recycling impact, etc. However, the Formula Infinity team has close connections and shown interest from industry companies within all of these fields and can effectively provide accurate scientific data on all of the mentioned parameters. Making use of that, the camshaft team should pretty easily be able to implement sustainability scoring within the game.

CUSTOMER SEGMENTS

An interesting aspect of Automation is the new Tycoon part of the game. Your vehicles are pitted against a plethora of customer segments based on many different parameters, and depending on the popularity you will turn a profit or garner a loss as an automobile tycoon.

For the Formula Infinity team, and for education in general, this is a very interesting additional dimension. It allows the player to see your vehicle's desirability and

impact in society at large, instead of just measuring its individual performance. It also allows for a variety of challenges based on societal factors, environmental impact, etc.

For the customer segments, just as for sustainability, the Formula Infinity team has access to scientific and industrial data and knowledge within the field. One part of the project could be the streamlining of existing and addition of new customer segments for the game.

IN GAME CHALLENGES

The challenge system, already in place in the game, is a key resource even for education. As a project deliverable, the Formula Infinity team could create packages of challenges for education and for the game.

COLLABORATION

For this project to work effectively, we should create a separated workflow, where all direct development on the product is done by Camshaft, and the Formula Infinity team works separately and provides deliverables with feedback rounds which Camshaft can then implement. As outlined above, these deliverables could consist of:

- A user interface and user experience outline.
- Electrification requests
- Sustainability data and measurements
- Customer segments data
- In game challenges

Each deliverable from the team would be a complete specification to be implemented into the product. The format for each deliverable would be outlined together at project start, and feedback rounds would be planned as necessary. Camshaft would then take responsibility for implementing these in the game. With this workflow both parties can work independently.

As the project would come to an end, the cooperation can be evaluated and further collaboration can be discussed.

FUNDING

The Formula Infinity team would apply for all funding necessary for this collaboration. As Camshaft will provide us with their developed platform of 12 years and access to the expertise to implement any modifications to it, the Formula Infinity team needs to supply the means to implement these modifications, both for their end, and to sustain the development for the project on Camshafts end.

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