

Factory Manager Tutorial Scenario

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The Factory Manager game will eventually allow players to interact with an online browser-based environment in which they will be able to play the role of a factory manager managing and expanding their industrial empire, and saving their progress to a server. This first scenario focuses on the tutorial aspect of the game, so that a player has a way to learn the game mechanics when they first begin to play.

A key feature of the game implemented in this scenario is the tutorial that introduces the user to the game's mechanics, from building a factory to buying a machine, etc. This scenario will focus on implementing the non-server based tasks as seen in Figure 1 below and are specified in: Group 2 - Factory Manager - Final Report.pdf.

Scenario "Factory Manager Tutorial"

The player starts the tutorial by launching the code in their browser. A log-in page will appear prompting the user to log-in into their account or create a new account.

Since the tutorial aspect is the focus, the gaming screen will appear and welcome the user by stating that they are an entrepreneur given a startup fund and free factory to start. From there, the user will be prompted to click the button "Build Factory" to build a factory (at no cost). When the player clicks on the button, the factory will be created.

Next, the user will be prompted to click on the "Buy Machine" button for the factory and shown a message that the factory cannot produce goods without a machine. Out of a few possible machines, the user can only select the cheapest machine at the cost of a portion of their money.

Since the user does not have to wait for the machine to be installed, they will be told that the new machine cannot produce goods without having a blueprint for the goods, which are necessary to progress in the game. Then, the player will be prompted to click on the "Research New Product" button. The program will only allow them to select the first blueprint. Once clicked, the user will see the overall factory and a timebar above the machine, which will only be a few seconds. Meanwhile, the player will be notified that they will be able to research products based on the products they have discovered so far, which are the prototypes for future products. Research will be done in a tree-like structure, where unlocking earlier products allows the user to research further "tiers" of products, and the time to complete a research project is dependent on the product.

After the user clicks the screen, they will be notified to begin manufacturing a product before being prompted to click on the machine then the "Insert Blueprint" button. After that, they will only be able to select the first product. Once clicked, the player will see that the animated machine is making the product.

The game also has a delivery system which allows products to be delivered and limits the amount of trucks on roads in order to control the supply and demand. There are basically two

rules: no resources, no products; no products, no sale. The trucks will have three possible destinations: Factory, Resources, Store. The trucks go to Resources to pick up factory resources, and then return to the factory with them (input resources), and the trucks drive from the factory to the store to sell the products (output products). The route that each truck takes will be decided by the player.

In order to earn revenue, the player will have to select the contents of the delivery truck they want to send to a certain destination(s), which will be communicated to the player. Another message that will be communicated to the player is that the trucks have a limited amount of capacity, therefore they need to determine what and when to load and unload. Next, the player will have to click on the “Plan Route” button which will let the player see the world map. The user will be prompted to select a specified path the truck will take. With each click on a stop, the user must select what is loaded and unloaded according to what the program decides is best (as an example to make good decisions).

Once the player has succeeded in the previous tasks, they will be notified that their goal is to create, sell, and research new products to reach a 50% market dominance and create new factories, which should lead to a monopoly, which is defined as completely controlling over the supply and demand in a whole field, or market dominance of 85% in a market sector. Factories themselves have their own economies which is to purchase machines and make some specific products. Employees are required to work in factories. The player will be warned to not earn a negative net-worth, or become bankrupt, over a certain period of time. At the end, a small message will appear to tell the player that their score depends on how long they arrive at a monopoly.

Figure 1 - Scenario Diagram

