

NEW – Input System

- Inputs required for Power Networks
 - Main game screen:
 - WASD and Arrow Keys: Pan camera across map – this was chosen as it's standard practice on top-down/isometric games
 - Mouse: Move cursor around screen to play or to move the camera around – this was chosen as it's standard practice on top-down/isometric games
 - Left-mouse click: Select plants from the bottom of the screen and then click on the map to place them where desired – this was chosen as most people use this button to select items or execute actions in a game
 - Right-mouse click: Rotate camera angle within set limits – this allows players to get a better look around the game map if a different angle is needed
 - Mouse wheel: Spin to zoom in and out, and click and drag to pan camera across map – this also facilitates player view across the map, if the WASD or arrow keys are not preferred
 - Esc: Pause menu – This is standard functionality for most games and apps
 - Upgrades menu:
 - WASD and Arrow Keys: Highlight options on menu (optional) – This is standard functionality for most games and apps
 - Mouse: Move cursor around menu – This is standard functionality for most games and apps
 - Left-mouse click: Select options on menu – this was chosen as most people use this button to select items or execute actions in a game
 - Esc: Back to main game screen – This is likely the preferred way to navigate away from a menu back to a prior screen

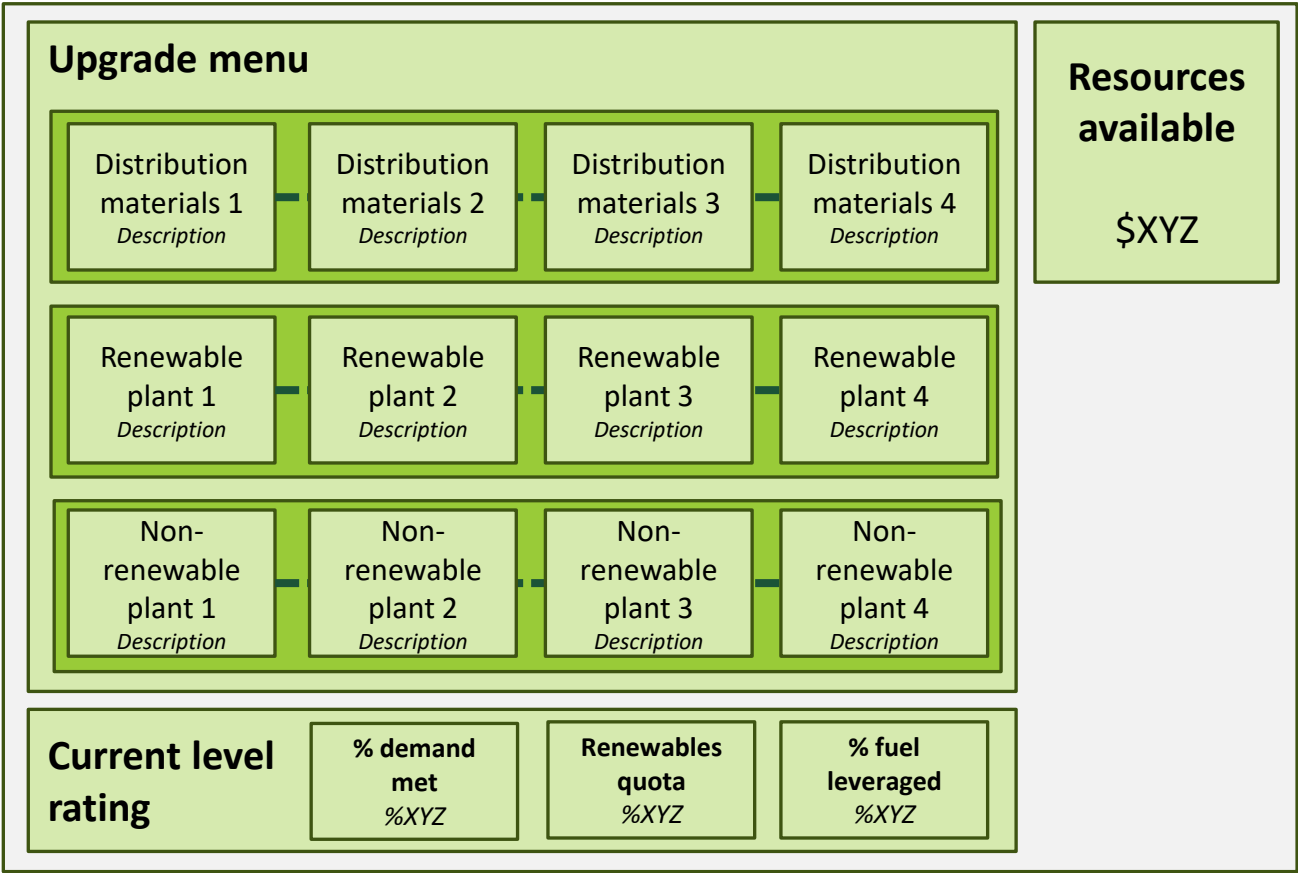
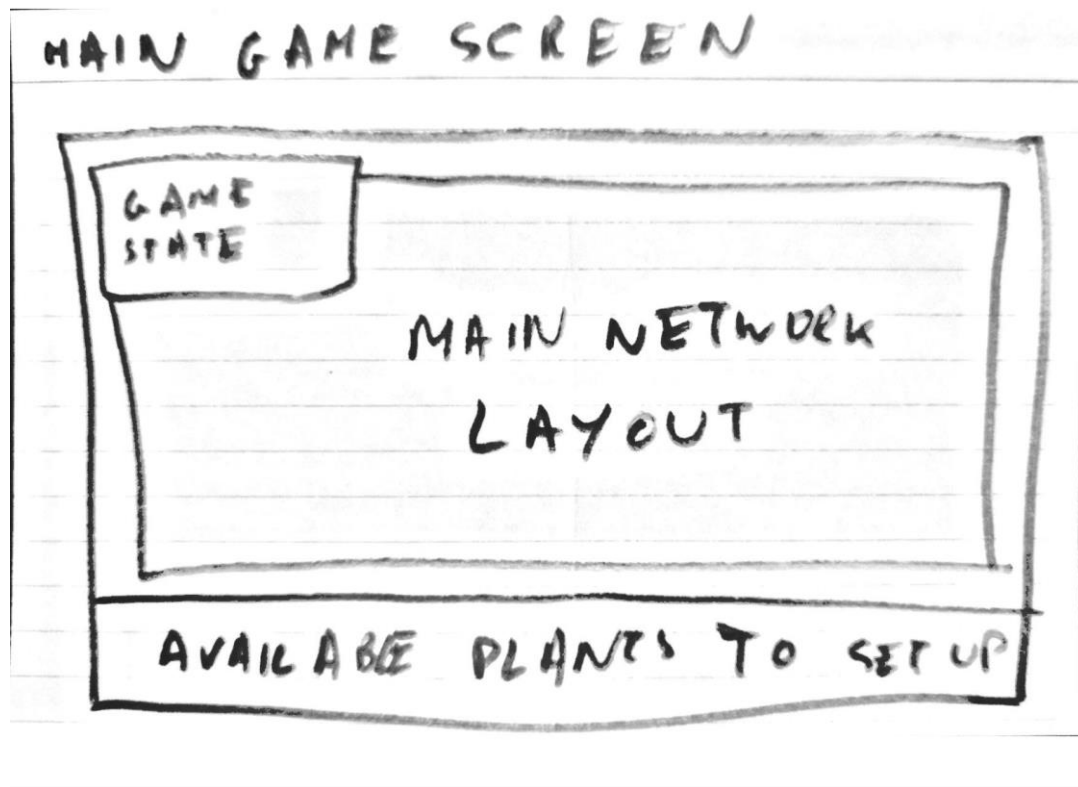
Appendix

ASSIGNMENT 15.1 – BRAINSTORMING IDEAS AND SKETCHES

Proposed game

- **Game idea: “Power networks” is an educational game used to teach children the basics on how power generation and distribution works**
- The game presents different scenarios where a power network needs to be set up. The player will be presented with a specific volume of demand that needs to be met by the network and will be given resources to manage and build the network to meet the requirements of each scenario.
- Limitations like maximum cost, access to fuel resources, minimum renewable quotas, and back up plants are all considered when completing each scenario.

Game Representation



Draft Explanation

- The draft provides two views: The Main Game view, and the Upgrade Screen View
- The Main Game view shows the network layout with all the houses representing customers, the plants feeding the system, and the transmission & distribution networks connecting everything
 - The top left of the UI (priority 1) will show the current game state, which will include: current demand levels, current supply levels, and current rating based on criteria established at the beginning of the level (i.e., current \$ available, date, time of day, % of renewable energy, or backups installed)
 - The bottom of the screen is dedicated to all the available options for plants, ordered from cheapest to most expensive and labelled to distinguish between renewable and non-renewable plants
 - On the network layout, the screen will also display small progress bars above each plant as they are being constructed to denote % completion
- The second diagram shows the upgrade screen, which the player would access to improve distribution materials (i.e., power lines, towers, cables based on capacity, resistance/efficiency, and overall quality), renewable and non-renewable plants.
 - Renewable plants would be improved on the basis of reliability and efficiency, achieving less down time, higher output capacity, and reduced reliance on back up plants (in the case of wind, for instance)
 - Non-renewable plants would be improved in a similar way, but with a focus on more efficient use of resources, longer useful life, or maintenance costs
 - Additionally, the screen would also display the current resources available to apply to upgrades, as well as a more detailed view of the current game state, so the player can hone in what to focus on to receive a good rating at the end of the level