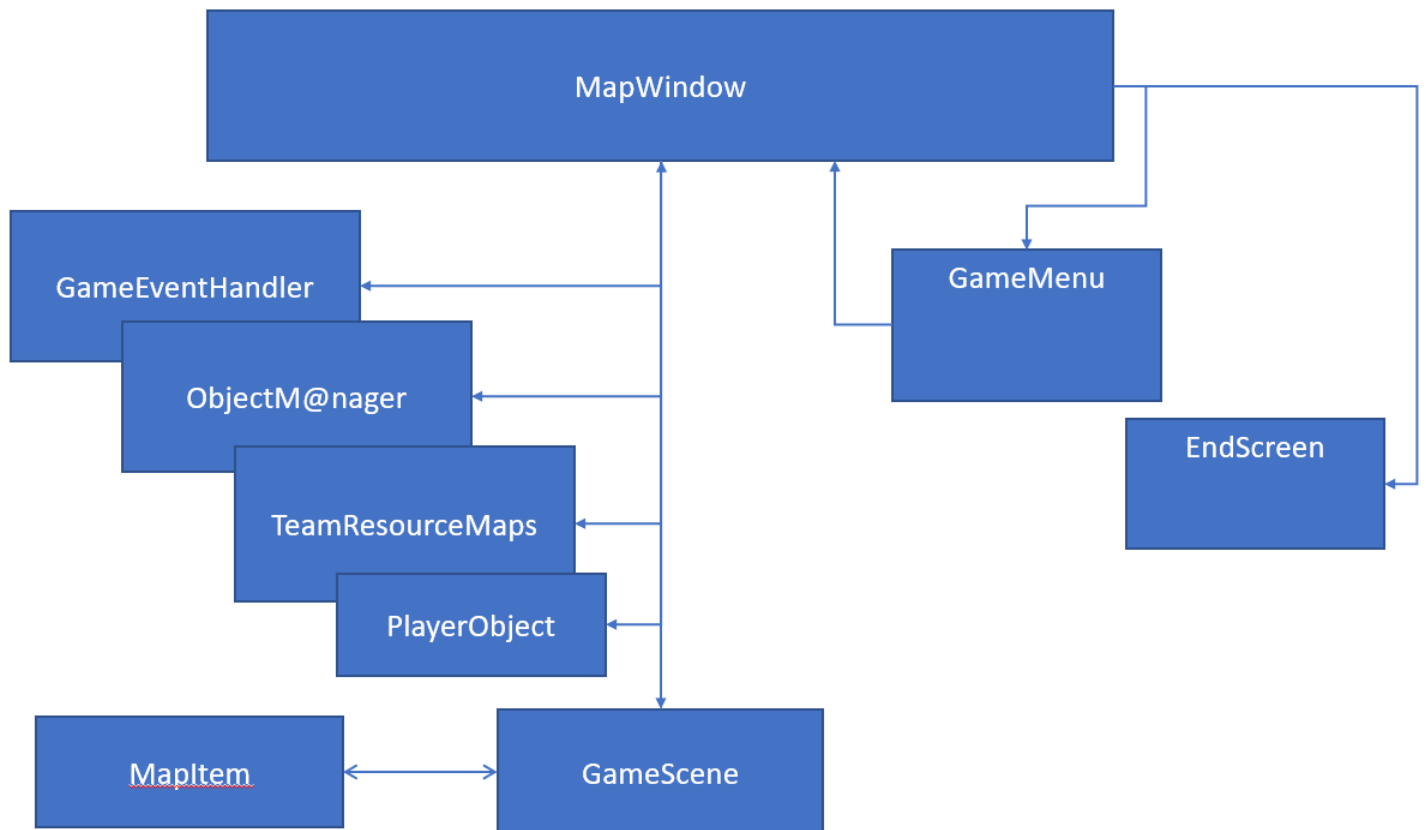


Ohjelmointi 3: Tekniikat

Sampo Ojala

Alexi Raatala

Structure:



Responsibilities:

- **MapWindow** is our god-like class that handles almost everything in our game. We are deeply sorry. Please forgive us. responsibilities: updating hud, keeping track of game state, managing player actions
- **GameEventHandler** is responsible for modifying resources for each player
- **ObjectManager** stores all the tiles and workers of the map.
- **MapItem** is responsible for changing object size before they are drawn onto map. It is also responsible for using correct images for objects.
- **PlayerObject** has responsibility over players' current resources, owned tiles and available workers..

Additional functionalities:

- Player can only recruit workers from työkkäri like in real world.
- 4 player CO-OP
- Multiple gamemodes
- Awesome 5-star homemade graphics for all tiles, buildings and worker types.
- Immersive gameworld with lots of background lore
- Rewarding game system, the winner is undoubtedly the better person.
- Message boxes on start of the game, and when info button is clicked

Division of labour:

- Project was mostly done together as a team. Towards the end there were a bit more solo working.
- Aleks:
- o Object manager unit tests
- o Inherited scene and mapitem
- o Inherited farmer and miner
- o Gamemenu dialog
- o Most of the images
- o Intro and info MessageBoxes
- Sampo:
- o GameEventHandler unit tests
- o Inherited tiles and buildings
- o End screen dialog
- o EndDocument and Documentation
- o Lots of moral support

Shortcomings:

- If you spam the next turn/round button over and over again. It might happen that a player gets the possibility to build on a tile what he does not own.
- Unexplainable crashing on game start. If it happens, just try again.
- This was more of a conscious choice than a shortcoming, but player can't move workers from their tiles. Once put down they are there forever.

Game Rules:

Goal is to gather as much points as possible. At the start of the game players decide the game mode: points or rounds. In points, the winner is the one who exceeds the points limit first. In rounds, the winner is decided by who has the most points at the end of the round limit.

Player gets points from building buildings, buying workers and having workers work. Players can only assign workers and buildings on an area that they own. At the start of the game, players own a 5x5 area starting

from their HQ which is located in one of the corners of the map. HQ coordinates for players: p1: 0, 0, p2: 11, 11, p3: 11, 0, p4: 0,11.

Players can expand their owned area by placing a outpost onto a tile. Outpost expands the owned area by 5x5 around the outpost.

Workers are hardworking and terroritory aware people, who don't care for facilities or machinery. That's why they can only be placed on empty forest or grassland tiles. Once assigned, they will not move and will work until the world collapses around them.

Will gather resources from their tile at the end of each round.

- Worker on Grassland will gather 4 food + 1 point

- Worker on Forest will gather 2 food, 3 wood + 1 point

Farmers belong to an old tribe full of hillbilly rednecks. They only agree to work on a well established farm.

- Farmer on a farm will gather 8 money, 18 food + 2 points

Miners also are quite picky on their tasks. They can only be assigned onto mines.

- Miner on a mine will gather 7 money, -2 food, 20 stone, 13 ore + 5 points

If player recruits too much workers and doesn't have enough resources to pay them, he will lose points.

The map has 4 types of tiles. Forest, grassland, mountain & water.

- Forest: Can have worker, outpost or työkkäri.

- Grassland: Can have worker, farm & farmer, työkkäri, outpost.

- Mountain: Can have Mine & miner

- Water: Player can't place anything on water. It's only purpose to be in the way.

Player has 5 types of buildings: HQ, työkkäri, farm, mine & outpost.

HQ: Determines player starting corner. Grants perk: "Town mayor". Has no other functionality. It doesn't matter if HQ sits on top of a water or in a mountain.

IT IS SPECIAL.

Työkkäri: Can be placed on forest, grassland. Enables the player to recruit ("Osta") different kinds of workers. All types can be recruited at any time. Player can only have 1 työkkäri.

Farm: Can be placed only to grasslands. Is needed to place a farmer onto a tile.

Mine: Can be placed only to mountain tile. Is needed to place a miner onto a tile.

Outpost: Expands the players' owned tiles by 2 tiles around the outpost.

Instructions:

First you select a tile by clicking it. After selection, the available actions can be determined from clickable buttons. Assigning workers is permanent. You can't move them afterwards. If player has unassigned workers when turn ends, they will eat away at resources without giving anything back, just like in real life työkkäri. Player can't build onto a tile which has a worker in it. After player is done doing their moves, the turn ends by clicking "Next player" -button. The last player in the round ends the round by clicking "Next round"-button.

Try to get more points than your opponents!