Visitor – Implemented by **Zack Powers**, includes the following participants:

• Visitor Interface - TileVisitor

• Concrete Visitors - CloneTileVisitor

• Visitable Element- Tile

• Concrete Visitable Element - ResourceTile, TerrainTile

Iterator – Implemented by **Zack Powers**, includes the following participants:

• Outer class/iterable object – Grid

• Inner class/iterator - GridTileIterator

• Iterator Interface – Iterator

Observer – Implemented by **Joseph Lumpkin** includes the following participants:

• Subject: MutableLiveData<Integer>

* Concrete Subject: Grid.mYear
* Concrete Observer: mYearObserver

The mYear object is watched for changes and alerts the MainActivity.updateDisplay() method to refresh what is shown to the user.

Enum – Implemented by **Vincent Capra** includes:

* ResouceTile > resourceType (WATER, IRON, OIL, URANIUM, ONEUP)

Strategy – Implemented by **Vincent Capra** includes:

* Strategy: ReproduceStrategy
* Concrete Strategy A: HumanBaseReproductionStrat
* Concrete Strategy B: OneUpReproductionStrat
* Context: Human.mine()

Strategy and Template pattern by **Rocky Trinh**

* Added 5 different weather strategies to implement various buffs/debuffs. These all have their own strategy file.
* Removed the GridCell class and moved methods into the Tile class.
* Adjusted placeWaterTiles method to take Weather Strategy as a parameter.
* Refactored some files.
* used a template strategy to put a tile flag in to determine if tile should be changed or not.
* Added weatherContext class and appropriate methods.
* Board state should dynamically update in the middle of the game to account for several different weather conditions.