# Key features:

* Accounting-based RPG system
* Comprehensive real-world economy
* Intricate trade system
* Seamless microworld blending of education and games

# Core gameplay:

## Rules

* Gamespace is entirely discrete, with no real-time elements
* Game uses ¾ view on 3d overworld, but flat 2d on town
* Time passes whenever players act, not when a button is pressed
* Accounting treated as game mechanic over learning outcome
* Full information game; no reliance on outside knowledge
* Unbiased story and personal influence
* Local saving, less than 1h playtime
* Comprehensive Tutorial and impeccable UI design
* Efficient coding to ensure low system requirements
* Good game balance to prevent “First Order Optimal Strategies”
* Can only see info about surrounding hex
* At all times players may review the Econonomicron to learn topics
* Time, currency and reputation are core resources
* After close of business, time jumps to opening hours next morning
* Going off the road can sometimes award loot
* Trade goods are measured in gold per unit (gpu)8

## Mechanics

### General

* Mouse-centered gameplay
* One win condition, one loss condition
* Basic resource management

### Overworld

* Overworld navigation with mouse or WASD, left-click to see info, right-click to move
* Simple auto-combat with no direct player input
* Players navigate towns by entering them like another hex
* Planned hexes are:
  + Forest – lumber production, hard to traverse, high risk (ambush)
  + Plains – farmland, ok to traverse, med risk
  + Hill – mining, hard to traverse, high risk (accident)
  + Lake – impassable
  + Road – great to traverse, no chance of loot, low risk
  + Town – serves as method to enter towns
* Any gain or loss of resources is automatically transferred
* Players may travel at night (6pm-6am), but risk is doubled

### Towns

* Towns are a series of windows, branching off from a hub, navigation is done with the mouse
* Players CANNOT transfer from house to house, must return to hub
* Visiting areas and conducting business consumes time, takes effect immediately.
* Planned houses are:
  + Barracks – Hire mercenaries or purchase weapons, reduces risk when travelling
  + Market – Sell or buy trade goods
  + Town Hall – See list of Quests
* Towns have a population that works and contributes to the economy
* Market price fluctuates based on input from town economy

### Quests

* Lvl 3 accounting quests require keyboard & mouse input, lvl1 & 2 require mouse only
* Successful quest will award gold & positive rep, failing a quest will award negative rep
* Players will be provided with a simple in-game calculator
* Switching to the Econonomicron from this screen will cause the player to forfeit some bonuses
* Every year of in-game time, the player will have to prepare a set of financial statements, based on the information recorded in the general journal, including:
  + Income Statement (Profit & Loss Statement)
  + Statement of Financial Position (Balance sheet)
* While it is not included in the syllabus, tax return preparation will be covered as it is a vital part of the system.

## Goals:

### Have positive cash-flow

* Players must maintain a positive net cash-flow as at the end of each month they will need to cover long-term liabilities, in ever-increasing amounts
* This is done through any activity that earns gold, although the system is set up that the player will have to trade in order to cover any debts
* Failure means the player is bankrupt and forfeits the game

### Earn Reputation

* Reputation determines what quests are available and what goods the player may buy.
* Players start at 0, the lowest possible amount, with only basic trade goods and quests available
* Having a reputation of 100 causes the player to win the game

### Avoid Disasters

* Players must practice appropriate risk-management when travelling
* Players may lose cargo due to ambush/hazard
* Cargo loss may inadvertently cause loss of game due to negative income

# Target Platform

PC & Mac – Standalone

Web Player, Android & IOS versions a desirable

# Aesthetics

<http://www.gamasutra.com/view/feature/185676/the_aesthetics_of_game_art_and_.php?print=1>

http://www98.griffith.edu.au/dspace/bitstream/handle/10072/29829/60667\_1.pdf?sequence=1

<http://www.digra.org/wp-content/uploads/digital-library/09287.17350.pdf>

<http://www.cs.northwestern.edu/~hunicke/MDA.pdf>

<http://www.igea.net/wp-content/uploads/2015/07/Digital-Australia-2016-DA16-Final.pdf>

# Asset List

**Models:**

* Caravan Model
* Model of the Environment Hexes
  + Forest, Plains, Hills, Lake, Road, Town
  + Villager Model (Desirable)

**Textures:**

* Flat town Texture x 3
* Texturing for Hexes
  + Forest, Plains, Hills, Lake, Road, Town
* Caravan Texture
* Window Textures & borders
  + Quest, Barracks, Market
* Mountain Texture (Desirable)
* Desert Texture (Desirable)
* Ocean Texture (Desirable)
* Tooltip Portraits (Desirable)
  + Characters, Items, weapons

**Audio:**

* Overworld Music (loop)
* Town Music (loop)
* Battle Music (loop)
* Day/night Cycle prompt
* Selection sound (Desirable: section specific)
* Hover sound (Desirable: section specific)
* Desirable: NPC dialogue sound – Flavor text

**User Interface:**

* Selection window border
* Custom Cursor
* Custom Buttons
* Custom drop-down lists
* Thematic Typeface font

# Testing & Analytics:

Primary concerns:

* Is the game able to teach Year 11 Accounting (Teach as well as assess)?
  + **Player feedback:** what is the player’s age & perceived mastery of the material at the start vs. after the game
  + **Playtest Observations:** do they show moments of understanding when learning & can they apply that to the game.
  + **Metric:** Amount of incorrect vs. correct answers for Quests AFTER they learn it.
  + **Analysis:** Improve learning experience based on feedback.
* Does the game inform players on the economic theory through gameplay
  + **Player Feedback:** Do they understand the macro and micro economics at work.
  + **Playtest Observations:** Are they making sense of the way the world operates.
  + **Metric:** # successful trades
  + **Analysis:** modify the economic system (mechanics, GUI, ect) in light of feedback.
* Are the mechanics seamlessly interwoven into the experience
  + **Player Feedback:** How do they find the mechanics, are they tedious?
  + **Playtest Observations:** does the player make negative utterances at any point (groans of frustration or irritation)
  + **Metric**: Time spent on certain tasks vs. others
  + **Analysis**: Modify mechanics to ensure they meld with the experience.
* Is the UI easy to navigate
  + **Player** **Feedback**: How did they find the user interface design.
  + **Playtest** **Observations**: Do they spend too much time figuring out the UI or did they miss something
  + **Metric**: Amount of time spent on particular windows, or clicking on something that doesn’t work
  + **Analysis**: Modify the UI based on the user feedback, to ensure it is intuitive
* How long does the game hold the player’s attention
  + **Player Feedback**: How long did they think they were playing for vs. the actual playtime
  + **Playtest** **Observations**: how long till the player stops playing
  + **Metric**: Total playtime in a session, without pausing
  + **Analysis**: Attempt to analyses what is causing the player to leave, and act on it.
* What is the perceived difficulty of the game
  + **Player Feedback:** How hard were the questions
  + **Playtest Observations:** Are they having difficulty answering the questions
  + **Metric:** number of times players have to use the HINT function.
  + **Analysis:** Change questions based on player feedback
* Correlation between age and skill playing the game
  + **Player Feedback:** what is the player’s age & perceived mastery of the material overall
  + **Playtest Observations:** confidence when starting vs. actually playing the game
  + **Metric:** in-game questionnaire
  + **Analysis:** tailor questions to be more toward the target audience
* How effective is the game’s tutorial
  + **Player Feedback:** How difficult is the tutorial as a learning mechanism
  + **Playtest observations**: does the tutorial not teach enough of the game
  + **Metric**: how long does it take to clear the tutorial & do they have to repeat sections
  + **Analysis**: modify the tutorial based on feedback.

# Technical Considerations:

## Hardware:

* Desktop/Laptop PC – Must be capable of meeting the minimum specs for each of the development software.
* Keyboard – Standard
* Mouse – Standard
* Headphones – Standard
* Audio Equipment – (TBA by Sound Engineer)

## Software:

* Unity 5.3.4f1 – Game Engine, Free version
* Adobe Suite – Texturing & normal mapping, Student Version
* Quixel – Texturing, Student Version
* 3ds Max – Modelling software, Student version
* Audio software – (TBA by Sound Engineer)
* Github Desktop – Version control software, free version
* Slack – Communication software, free version
* Trello – Project management & scheduling, free version
* Firefox – Web browser, free version.