

# Falling Nations

## Design Documentation

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## Name of Game

Falling Nations – Name of the game.

### Other Ideas:

- World of Glory
- Legions of Power
- Act of Strategy
- Kingdom of Warfare
- Falling Empires
- **Falling Nations**
- Ages of Iron
- Clash of Control
- Worlds to Oblivion

## Design History

### Starting Concepts:

1. Game where you gain health constantly and it can only be lost by fighting enemies who are killed over time, med packs and armour pickups heal you more, and when you reach 100 the game is over, your task is to die.
  2. **RTS style game** – Different Ages (Stone, bronze) however instead of advancing through the ages you go backwards through the ages, the gameplay would get harder with the dwindling tech as it would be harder to keep your population fed and harder to keep the dangerous wildlife away.
  3. Starting at the end and working backwards – Start at the end of the game with the final showdown, working your way backwards through the world to uncover why you are doing the things you are doing (pull an M. Night Shyamalan and have your reasoning be a bad one – i.e. you played a villain
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the whole time or there was no reason) – hard to do. – Right to Left side scroller.

## Building on the Concepts:

1. Gaining Health game – A zombie who wants to stay a zombie, a cloud that is healing you is giving you your health back constantly, you are trying to stay undead by eating the living and eating toxic waste bins. However you can run into some living who are doctors and when you eat them you gain more health, you can also eat health barrels and that will give you more health something which you don't want to do. The longer you are alive the more score you get.
2. **RTS game** - You play as a great nation of the future, with megacities, a high tech army and super weapons which you have used to declare war on a neighbouring nation, however the other nation has hit you with a time bomb, and you are both now dwindling back in time to the Stone Age. You will slowly lose your guns and get muskets, you will lose those and get swords and eventually you will have Stone Age warriors, your resources will change from gold being most important to iron being the most to slate and wood being the most important. The goal is still to defeat the other nation.
3. A game that starts at the end, the player's character has defeated the crime boss yet has total amnesia of what he has done to get to this place. The player must work backwards, in a reverse side scrolling way (right to left), instead of defeating criminals and collecting evidence against them you must fight the police force of this world and gather evidence of what you have done. You reach the end and must put together your reason, that could be a bad reason or no reason at all.

## Final Concept:

### Falling Nations – RTS Game:

RTS where instead of advancing through the ages you go backwards through the ages down to the stone age. The game would work much like most RTS games with the gathering of resources and foods, the players would can build up their bases but after a set amount of time (enough for them to enjoy the starting age) the player would be hit with some form of "Time Bomb" which would send the player backwards an age through the eight ages of the game. All the way until the Stone Age where the game gets harder as resources are harder to acquire. Making the players job much harder, the main goal is to defeat their enemy completely, this would get much harder as the game progressed. (A concept I have thought over would be letting the player choose an age to start in, they would also be able to choose to stay in this age allowing them to play on varying different difficulties or in their favourite eras).

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The game would be called “Falling Nations” an opposite to “Rising Nations” sticking to the theme of backwards even for the title.

The Eight Ages of the game would be:

- Future Ages (where the game starts)
- Information Age (commonly known as the modern era)
- Atomic Age (The 90's mainly the era of world war 2)
- Industrial Age (Where steam engines and the industrial revolution reined)
- Discovery Age (The war for independence and the discovery of the known world)
- Medieval Age (Knights and Kings)
- Bronze Age (The era where humanity used bronze heavily)
- Stone Age (10,000bc, cavemen and tribes)

## Game Ages Continued:

In the original concept of the game, the game would age backwards over a set amount of time, however a better and maybe more enjoyable idea, that also relates to the gameplay would be having the macro management of the game be the deciding factor of the ages in the game. Having the game start in the future age where their units would be the most powerful would remain the same, however the game would fully rely on the resources of the player. For example, the players would start with 5000 of each resource, to remain in this age the players would need to have both of their resources over 1000, whenever they drop below this the age would drop backwards. The units in the future era would cost a lot more than any other units, for example the infantry would cost 3000 of one resource and so forth. Meaning the players could rush the enemy base however if this didn't pay off they would have lost valuable resources. However, if they held off and pooled their resources they would be able to build a larger force, however in the starting age they would only be allowed access to one worker and one gatherer meaning their intake of resources would be slow. Which in turn adds to a slow build-up of resources. Either strategy would be valid. The later ages of the game would allow players to have larger armies and more resources yet the units would be weaker meaning the players would go through them faster.

## Basic Units:

There would be basic units, these units would have the same functions and would very rarely change in terms of actions and animations, the model of the unit would obviously change during the ages. There would be two basic units:

- Workers
- Gatherers

The workers would be used for gathering materials and building the main structures of the game. The materials being gathered throughout the ages would not change,

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this would help with the playability of the game as the players wouldn't have to constantly change what they gather.

## Combat Units:

This RTS game would consist of four main units, each unit having a certain weakness and a certain strength in the game, akin to rock paper scissors, meaning the player would have to be tactical with what they build. The player wouldn't be able to continuously make infantry units as they would be at a disadvantage against an army with ranged units as well as infantry.

- Infantry this would be strong against Cavalry units.
- Ranged this would be strong against Infantry units.
- Cavalry this would be strong against Ranged units.
- Siege this would be strong against Buildings and Structures.

The units would change their models throughout the game, the units would act the same throughout the ages in a way. Some may be more ranged until they advance backwards an age.

Each Age, the units would change their styles. The units would start by looking one way and throughout each age they would change.

- Infantry
    - Cyber Commanders - Future Age
    - Ranger Infantry – Information Age
    - Marines – Atomic Age
    - Rifles with Bayonets – Industrial Age
    - Buccaneers – Discovery Age
    - Knights Errant – Medieval Age
    - Greek Spearmen – Bronze Age
    - Club Cavemen – Stone Age
  - Ranged
    - Railgun Sniper – Future Age
    - 50. Cal Sniper – Information Age
    - Sniper company – Atomic Age
    - Scouts – Industrial Age
    - Musketeers – Discovery Age
    - Longbow – Medieval Age
    - Greek Archers – Bronze Age
    - Spear cavemen – Stone Age
  - Cavalry
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- Laser Tank – Future Age
- M1 Abrams – Information Age
- Half Track – Atomic Age
- Rifle Cavalry – Industrial Age
- Mounted Swords – Discovery Age
- Mounted Lances – Medieval Age
- Greek Chariots – Bronze Age
- Beast Riders – Stone Age
- Siege
  - Nova Beam – Future Age
  - Ballistic missile truck – Information Age
  - Artillery – Atomic Age
  - Field Guns – Industrial Age
  - Cannons – Discovery Age
  - Trebuchet – Medieval Age
  - Greek Catapult – Bronze Age
  - Mammoth ram – Stone Age

These units would act almost identically in each age, however their health pools and how much damage they would do would change, with the starting age being where they do the most damage and have the most health, however the fights would be over a lot faster than in other ages, meaning the starting age would be either for setting up your empire for the next coming age or to rush the enemy to try to do as much damage as you can before you lose the heavy hitting units.

## In-game resources:

The starting concept for the resources was using things that situate themselves into the world, like trees and rocks to gather, however when looking into macro and micromanagement, it became apparent that working with so many different resources can become confusing and can become annoying for players to manage.

Some RTS players enjoy the macro management of their economy in RTS style games, however, this transitions a lot better into games like Civilization and not the Command & Conquer style RTS game I would be looking at making. Because of this I have decided to change the multiple resources to two easy to manage resources.

- Minerals – This would include all kinds of rocks, including things like iron and gold – This wouldn't be broken down into separate resources but one overall called minerals. This would be the main currency in the game for making: Buildings, Ranged and Infantry.
  - Naturals – This would include a lot of things from the natural world, from wood to oil to animals and much like minerals I wouldn't break this down into subsections. This is the secondary currency for the game. This would be used for units such as: Cavalry and Siege units as these would be the main units to use objects such as wood and animals.
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The changes in this could affect the wildlife function I was planning to have in the game, so the end goal would be to remove the wildlife from the game. This wouldn't change the way the two basic units work however. The worker would still be used to build structures and gather minerals and the food gatherers would be used to gather the natural materials in the game. This way the basic units are still useful however the player wouldn't have so much stuff to micromanage and would make macro management of the game a lot easier.

## In-game buildings:

The buildings would be used for the same purpose through the game however their models would change throughout the ages. With them getting increasingly tribal as the ages changed. The health's of the buildings would remain the same however it would be harder to destroy them as the ae go backwards.

- Main Building (Town Hall)
  - Resources go here
  - Workers and Food gatherers start here
  - Game starts with one already built
- Mines
  - These are built on mineral resources, this would be the only way for a worker to gather the resource would for this to be built on the resources. From here the resource would be taken to the town hall.
- Lodges
  - These are built on naturals resources, this would be the only way for a worker to gather the resource would for this to be built on the resources. From here the resource would be taken to the town hall.
- Barracks
  - Infantry and ranged units are made here
- Stables
  - Cavalry is made here
- Siege Factory
  - Siege units are made here.

## Win Conditions

1. The game would feature a single win condition, the destruction of the enemy. This means destroying the buildings that can generate units and destroying the workers who can build these buildings. Until these units are destroyed the game would not end.
  2. A win condition could be based upon a score, as some RTS games can last a long time, especially when a game gets harder as the "Ages" revert. This
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score could be generated on how many enemy units you kill, the amount of resources you have hoarded. This would mean that instead of outright finishing a game a person can quit and win on war score alone, this means that players wouldn't have to sit around waiting for the game to end.

## 3D or 2D:

Most RTS/Strategy games are 3D in this generation of gaming, however a lot of games started as 2D, when it comes to making my game I can chose to do it either way, however it would better suit a 3D game. However, when looking at games that are popular in RTS, age of empires 2 is a very popular game and even had a remaster. This game whilst looking 3D was 2D, the sprites and all assets in the game were 2D, meaning as long as the game at least resembles 3D in the art style it can be 2D.

## Gameplay:

When looking at other RTS games, from StarCraft and Warcraft to Age of empires and Civilization, it was immediately noticeable to me that I would have to choose how the game would flow, I could have it work like StarCraft, which is undoubtedly a super fast paced RTS game especially when looking at the professional playing of the game in e-sports. However, it could work as a slow-paced game much like games of Age of Empires and Total War.

Instead of choosing between one and the other, the easier thing to do would be to have the future age (where the players starts) be the section of the game which is fast paced and the units are fast and with each age this would diminish until the game becomes slow paced and more strategic with units over resources.

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## High Concept (back of the box):

Don't let your nation fall,

Take command of one of the greatest empires in the world and fight for your survival as a time bomb is unleashed by your greatest enemy. Witness time bend and the world change as your nation falls into the stone age. Play the extensive campaign and fight to rule the world in the epic scale RTS.

## Features:

- Control a large nation – Fight for your nations survival in this world
- A rich detailed world – Mountains, Rivers, Oceans, Jungles, fight in the living world.
- Control different units and fight throughout the ages – Take control of forces to dominate the world.
- A large campaign – Fight for the world as your greatest enemy unleashes their super weapon, the time bomb.
- Play vs the AI or online – Fight the AI or enhance the challenge by taking the fight online.
- Varying win conditions making each match different – Winning isn't always straight forward, choose how to fight the outcome will be different.
- Fast paced action – High octane, fast fights.

## Player motivation:

The player's nation has finally come to an all-out war with its neighbour and you must fight to survive in the ever-changing world as time is ripped apart and your technology slowly fades from all nation. Each age changes the world and the units making the game more challenging. Fight to stay in the present or fall into the past.

## Genre:

A 3D tactical real time strategy, with micro and macro management.

## Unique selling points:

Reverse Ages

Varying challenges

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Intricate map design

Varying win conditions

## Target Hardware:

Personal computer, Xbox, PlayStation.

## The Game World:

Designing the game world is a large struggle however designing concepts is where the world starts, designing how the trees look, how the mountains look, how the rivers flow and in a way how the entire flow of the game is.

Also, deciding whether the game would look like a sci-fi environment to show an idealistic future was one of the many things that I went through. However, I ended up with sticking to a map design that looked a lot like the natural world.

Game World Concepts:



Designing the minerals and the naturals that can be found in the game started off by deciding what would be in the game in terms of resources. Instead of breaking the game down into smaller chunks of management, they are split into two different overall resources:

Instead of coal, gold, iron, copper, hay, and other such materials so that a player can build units based on these things, I chose to use two distinct resources Minerals and Naturals. These contain all the above resource however instead of the major effort to

micromanage these resources make the game easier and make the action change pace to faster.

## MDA Framework:

### Mechanics – Rules of the game

- Moving units
- Scrolling the map
- Building units/Structures
- Collecting resources
- Attacking
- Rotating the camera
- Game Age changing

### Dynamics – Using those rules

- Rushing – Moving Units/Attacking
- Hoarding – Collecting Resources
- Turtling – Moving Units
- Building correct structures - Building
- Camping resources – Building/Moving units
- Battles – Attacking
- New units – Game Age changing
- Dominating opponent – Hoarding
- Being in command – Everything

### Aesthetics – How the game makes the player feel

- Tactical Genius – Rushing/Hoarding/Turtling/Battles
- Being a General – Building Correct structures
- Challenged – Rushing/Hoarding/New units
- Powerful – Dominating opponent
- Courageous - Battles
- Thoughtless – Battles/Rushing
- Adventurous – Battles/Building/New Units
- Aggressive – Rushing/Hoarding
- God complex – Being in command

When designing a game, especially a game that lets the player play how they want to play is hard. Especially when trying to relate it to an MDA Framework, because of this the best way for me to come up with a good concise Framework was to let

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multiple people play my game, I let 4 individuals play and wrote down how they used mechanics in the game and asked them how they felt after playing. I also asked them about the theme of backwards and if they think it is in my game, each person I asked was an avid gamer and have had experience with RTS games so their answers were from experience as well as my own creation. (I also made sure they were okay being named in my report before writing them in).

Player 1 – Mitchell Taylor: I've played a lot of StarCraft and Age of Empires so having the game be all around resources wasn't an Alien concept to me, however having to keep those resources above a certain number otherwise I would lose my strongest units was a nice new and refreshing and added a cool challenge especially if the AI was on top of the resources. I didn't find the gameplay fast paced however as I play in a reserved way trying to control the map over fighting.

After hearing the theme of backwards: Overall I think it was great and knowing now that the theme around the game was Backwards, I would say it really fits in a new and creative way.

Player 2 – Not comfortable with being named: I've only really played games like Civ and I'm not a big fan of RTS games but I still had a fun time, I did lose a lot when I played but I had fun. The micromanagement was cool although a little basic. The game changing ages backwards was nice as it wasn't expected, it's hard fighting a terminator (Cyber commander) when all you have is a man with a sword.

After hearing the theme of backwards: it's cool and done in a nice way, the only thing I would change is that the game relies on resources more than anything.

Player 3 – Shaun (asked me not to add his last name): I loved the game, it was cool, a little easy for me as I like to rush with a cheap unit whilst building resources, but cool overall.

After hearing the theme of backward: I didn't realise that the game aged backwards as my match only lasted a couple of minutes, however knowing that now, I would want to go back and play it some more just to see the changes.

Player 4 – Asked not to be named: I really enjoyed it, the game was fun however I enjoyed myself the most when I was in the middle ages using knights and such to fight, I love controlling all the map too, so having all of the resources at that point and just slaughtering cave men was awesome I felt like my army were gods!

After hearing the theme of backwards: I could tell that the game was centred around this whole going backwards through time mechanic and that's awesome, it's a nice fresh twist!

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## Analysis:

When analysing my game, I had a few things to consider, one of those being my own bias toward the game because this is something I have worked hard on and have created myself it is hard for me to say negatives about it, however I have tried to look at my game from the perspective of a player and of another developer completely. Another challenge I have when analysing my game is the reasoning behind not doing certain things as the main excuse I come up with is “If I had more time”, however again I am going to try and avoid things like this.

First, the theme of the game is backwards, creating a game with this theme is harder than you would imagine as the ideas must be new and creative. The genre also must match the theme or at least the idea behind the theme needs to be justified correctly. The game created is an RTS, this is a real-time strategy meaning that instead of controlling one set avatar the players control an army of varying troops. Due to this one first problem is that player don't really connect to their armies as they can seem to be ants and insignificant from the players point of view. Looking past this however, players like the idea of being a powerful person with no repercussions on them as people meaning players don't mind fighting unwinnable odds and fighting when they should be running because everything can be replaced in the player's eyes.

Taking this into account whilst playing can give a variety of different outcomes and battles making the game play possibilities almost endless. Now considering the theme of backwards in an RTS it can be difficult to come up with an idea that works and that also fits into the genre. The theme is being shown in this game by the Ages changing. This is a common occurrence in RTS games, letting players advance through time and unlocking newer and more advanced units until they reach the future age where warfare is spectacular albeit a lot easier. This game however, the players start in the Future age, with the best weaponry and with the best units, they must keep their resources above a certain number or come under the influence of the “Time Bomb”, this “Time Bomb” is a narrative mechanic and a way of explaining why the game ages backwards instead of forward. The player have to decide whether or not they want to have a lot of units but risk falling backwards an age leaving them at a disadvantage or if they want less units and to be in the age longer, however exposing them to the enemies force. This is an interesting way of doing an RTS as usually the game gets faster and easier, however in this the gameplay gets slower, more tactical and a lot more challenging, especially if your enemy has fallen behind an age.

Also, looking at the mechanics we can see what is possible in this game in regards to what can come from this game in terms of online. In it's current state the game cannot really be played in a PVP format. However with the game relying on resource management and this constant back and forth gameplay to try and gain the upper hand I can see this game being very competitive and fun for PVP.

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## Post-mortem:

### The Game

Falling Nations – Real Time Strategy game.

### Process

1. Coming up with the idea.
2. Learning unity 3D tools.
3. Learning the basics that go into an RTS game.
4. Research on other RTS games.
5. Designing a level.
6. Designing units.
7. Designing buildings.
8. Coding.
9. Testing.
10. Debugging
11. Coding again.
12. Testing.
13. Player a full game.
14. Debugging.
15. Coding.
16. Testing.
17. Final changes.
18. Testing.
19. Completing.

### Tooling

The toolset I used was Unity 3D and I created my game solely on this platform for the PC platform.

### What went well

There are various things that went well when making my game from scratch. A lot of the modelling and designing went as planned. Especially when using Unity as I have had a lot of experience in unity.

I ran into almost no problems when coming up with code and running and adding code to my game. Making sure the theme comes across in gameplay was also something I didn't have much of a problem with as it was a very simplistic idea to implement.

Testing was relatively easy and making sure the game flowed at the paced I wanted, not too fast and not too slow. The resource management of the game is another thing that I found easy as it is a simple system to manage and changing the amount of resources players get from each resource is very simple.

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### What didn't go well

Getting all mechanics to work in conjunction with each other was a bigger problem, as sometimes the worker units would try to gather materials instead of build, this was an issue that had to be ironed out by adding more scripts to the units.

The enemy AI, creating a realistic AI was a very hard thing to add to my game as any AI I added would just rush for the resources and guard them as much as possible instead of attacking the players, this is something I still haven't fully worked out.

Managing my time, this was the hardest part of the entire game, it was hard to decide whether to add more to my game or polish what I had already created.

Getting the right look for a lot of my units was also something I found challenging and it didn't go well. Maybe this is because I am not a computer artist or maybe it is because I don't 100% understand 3D models, all I know is that creating models that look like they belong in the world and make them look good is hard to do.

### What's next

After more work and polish I believe the PVE section of the game will be complete along with the concept of moving backwards through every age not just a handful of ages. Also after some more work on the AI a story mode may even be constructed over the idea of the "Time Bomb".

Not only this but adding PVP to the game is a massive step, this step would open the game into a large ocean of possibilities as there isn't really a way to control how players act in games.

Adding to PVP would be another large step, making different game modes for players to player and maybe even making it so more than 2 people can play against each other at the same time.

Obviously there is so much more that can be added to the game, like sounds, animations, better texturing and better lighting but for the small bullet points in terms of large set pieces that would be next in development the above things are what would come next.

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## Poster:

**Core Idea & Improvements over time.**

RTS in which instead of advancing through the ages, players decline through the ages. Starting in the future ages and ending in the stone age.

**Resources:**  
Starting with complex materials such as gold, wood, iron and such. I later changed this for a more condensed and simple structure for resources, minerals and naturals.

**Map concepts:**  
All the maps started small and then slowly I moved up to making larger maps, however I kept it small to keep the gameplay fast and fun.

**Buildings:**

- Town Hall
- Barracks
- War Factory
- Mine

**Different Ages:**

- Future Ages
- Information Age
- Atomic Age
- Industrial Age
- Medieval Age
- Bronze Age
- Stone Age

**Units:**

- Siege
- Ranged
- Melee
- Cavalry

All of the ages are based of history.

**Where the game is right now:**

As of right now the game has a working demo, this demo instructs players how to player and gather resources and build units for attacking the enemy in the game.

The aging backwards system has been implemented in the lightest sense, the game ages back one age at the moment, from the Future Ages to the Modern Age.

A lot of the 3D models in the game were made by me but some of those models were taking from unity assets, right now the game is playable.

**What comes next.**

A lot of different things will come next for the game. In it's current state the game is playable and enjoyable however, the list of things to add is a large one.

- More polish on the game
- Player vs Player
- Multiplayer modes
- Domination
- Conquest
- Capture the point
- Adding better animations
- Adding better sounds

**Story Mode.**

The last thing I would implement is a narrative/story mode, this would be to add to everything in the game. Such as the ages going backwards and the reasoning behind that.

It would also allow alot more connection for the players to have to the world.

**Review of current game state.**

At it's current state the game is playable, it has a few of the mechanics for the theme implemented already. However, the game is very basic and is relatively easy to both control forces and to win overall.

The mechanic of going back through the ages has only been implemented in a small way, with one age change instead of the eight I originally wanted.

Overall I am very pleased with my game and it's current state.

**Issues with development:**

- Creating an entire RTS engine.
- Making an RTS engaging.
- Unity 3D not cooperating.
- Making physics look realistic.
- Time management.

**Good things with development:**

- Testing was easy.
- 3D modelling.

**Images from early development in game**



**Early Concepts for Maps designs and buildings in game.**



**Single - Player over Multi - Player.**

Choosing between single player and multiplayer wasn't a hard decision, usually an RTS has both however I have decide to stick strictly to PvE because it makes for a more engaging experience.

**Spider Diagram of what is included in the game and what isn't**



**Theme - Backwards.**

A theme of backwards can be difficult to implement into any game not just an RTS.

However I know I wanted to make an RTS, so I had to come up with a way to do this. I went through different RTS games like: StarCraft, WarCraft, Age of Empires, Rise of Nations and others. I took note of many different things from each of these games however the main thing I took was the advancing in technology/ages.

With this I decided and interesting new idea for backwards in an RTS would be to age backwards not forward.

**Images from mid to late development**



**Above - mid to late development**

**Below - Late development**



**Video URL:** <https://www.youtube.com/watch?v=iMW2-1EefIM>

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