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The making of a strategy game art guide
A case study

Historisk-filosofiska fakulteten
Institutionen för speldesign

Cecilia Bexander
Kandidatuppsats inom Speldesign, 15hp
Speldesign och Grafik
Handledare: Adam Mayes & Stellan Sundh
Examinator: Iwona Hrynczenko
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Index

1	Introduction	3
1.1	<i>Aims and Purposes</i>	3
1.2	<i>Background and purpose</i>	3
1.3	<i>Research Question</i>	4
1.4	<i>Previous research</i>	4
1.5	<i>Method.....</i>	5
2	Working Process	7
2.1	<i>Structure and Outline</i>	7
2.2	<i>Development of the art guide</i>	10
3	Analysis.....	11
3.1	<i>Project outline</i>	11
3.2	<i>Choice of layout.....</i>	12
3.3	<i>Diary.....</i>	14
3.4	<i>Feedback</i>	15
4	Conclusion	16
4.1	<i>The Artwork.....</i>	16
4.2	<i>The Art Guide</i>	16
4.3	<i>Work challenges.....</i>	17
4.4	<i>Feedback</i>	17
4.5	<i>Reflection</i>	18
4.6	<i>Further research.....</i>	18
5	References	19
5.1	<i>Imagery</i>	20
6	Appendix.....	20

Abstract

Literature and teaching books about how to make art for games have been accessible but the area lacked covering of genre-specific game art. Game genres require different solutions for the art in order to aid playability of the final product.

My game project, called *DOMAINS* was made with an outside team. The project together with my first art guide about the cinematic platformer genre provided materials for the writing of the next game art guide. The old art guide was used as a template for the new guide, which focused on the strategy game genre.

This report contains the description of the process of making my second art guide, and the whole The Strategy Game Art Guide itself.

It reviews both the successful and less successful implements in the game and will walk the reader through how the prior decisions were made and the consequences. It targets beginners in the game development world.

Keywords: Game design, art guide, how to guide, book outline, game art, 2D graphics, strategy game.

1 Introduction

It is strongly recommended that you first read *The Strategy Game Art Guide* (Bexander 2012 a), included in the appendix, before you proceed.

1.1 Aims and Purposes

There are two goals for this project.

1. The first goal of the project is to produce all the pixel art for a strategy game called *DOMAINS*. Pixel art is a form of digital art using raster images, and is edited on the pixel level. Pixels appear as tiny cubes in an extremely enlarged image. What the game required is a battle field, objects in the landscape such as boulders and trees. We have two teams with units (soldiers) with different characteristics units and a GUI, Graphic User interface. The art should in the end provide immersion and enhance the experience of the game for the player.
2. The second goal is to document the process of making the art and to create a pedagogical art guide with focus on the game genre named strategy. In other words, to create a helpful guide. The guide, *The Strategy Game Art Guide*, is meant to discuss implementing game design choices in concept art, illustrations and graphics. The goal of the guide itself is to show how to make game art as easy as possible to understand and appealing for the end users. Also to show the reader one way how to design for an interactive audience in mind and for a specific genre.

1.2 Background and purpose

When I was new to the world of game design, I could not find strong visual instruction books for my skill level in the art of making graphics for games. To learn how to use the computer tools is one thing and often well-described in literature. But to understand how to graphically represent the game design in an effective way requires either experience or in depth instructions. At least I would have been greatly helped if I could have read an art guide before and during the production of my graphics for the game. I saw a need for literature about making specific game art.

At 2011 I was approached by a group of young programmers (Plasma Cod Entertainment) who were looking for a graphic artist in order to make their game “*DOMAINS*” fully functional and enjoyable. At that time I could not set aside time to help them full time.

My exam project gave an opportunity to help them and to use their enthusiastic endeavour and combine their work with mine to produce something playable. I also wanted to see if I could successfully use my previously written art guide (Bexander 2012 b) as a template for making a new one for another genre. This was the original idea at the start.

Much time could be saved in future artwork if artists can find effective ways of producing creative output. It should not be necessary to “re-invent the wheel” every time. The main contribution to this academic field of research with this report is therefore the description and completion of the art guide aimed for game developers on a beginner’s level.

1.3 Research Question

During my education in Campus Gotland, few of my course literature were theories and practical hand-on instructions about how to make genre-specific game art. The knowledge itself seems to exist in the industry, because games sharing the same genre seem to follow the same visual pattern. But I was unable to find books about genre specific art in the bookstore and libraries.

Theories and practical hands-on instructions about how to make genre-specific game art are a minority in bookstores and libraries. Even if the knowledge itself exists, not many industrial people had sat down and written books about it.

What I witnessed was the existence of tutorials for art in general, which mainly focused on mimicking art styles and techniques and not instructing on how to adapt art to the gameplay and game design. An example when designing art with game design in mind is; if it is top down perspective, the art design should focus on what the player will see inside the game (top-down perspective show heads, and shoulders of the characters etc). Game art have multiple design goals in mind:

- Providing information about the game to the player
- Be appealing.

I sense there is an unexploited market for game genre-specific art tutorials for beginners. I wanted to create the book I wish I had when I was about to work with my exam work, the *DOMAINS* game project.

My research question is: How to combine a game project so it also results in a pedagogical guide for game genre-specialized graphics?

1.4 Previous research

1.4.1 Light composition

When it comes to the knowledge of art itself there are many sources. For instance information on lighting principles in (Omernick 2004) is useful in general. The location and direction of light sources decides how the light is spread in a room/landscape. Light composition also help build a mood and affect gameplay. For example in a game, darkness can be frightening or a strategic advantage if units possess night vision.

1.4.2 Anatomy

Basic drawing skills as how to achieve good proportions in figures (humans) are well described in (Vilppu 1994). His book introduced me how to draw the human figure by drawing them as composed of boxes, to determine proper depth. When you have got all the proportions right you can add skin, clothing, hair, face expressions and finish the drawing.

1.4.3 Perspective

The art of perspective and how to capture movement is well described in (Stanchfield 2005). A character is subject to squish and stretch during movement. Loose items (like hair and cloth) also follow the same principles of squish and stretch. They trace the moving body with a slight time delay since they're dragged along the ride.

1.4.4 Art Guide

When it comes to layout for the art guide itself, IMAGINE (Sandberg 2009) provides a good example on an educational art book. The art guide was very much influenced and was given the same landscape orientation and three columns. Since Leo Sandberg is a skilled artist, I studied his art as well in the book mentioned above.

1.4.5 Colour-blindness

Colour-blindness (Weinschenk 2011) is an often overlooked factor that can affect the playability of a game, especially if the units in a strategy game are colour coded. Since a large percentage of the population, especially among men according to Weinschenk, is colour-blind this clearly is important in the production of all the graphics. Colour in strategy games are used to identify teams and enemy factions, and if colours appear too similar for the player, confusion can arise on the battle field. Colour can also be used to produce a mood. For example, red is normally perceived as an aggressive signal and green is assuring (based on the traffic lights). But for a colour blind person with the protanope or deutanope vision (both lack of red and green), those mood indications will be lost.

1.5 Method

1.5.1 Asperger syndrome

This syndrome also provides a different way of looking at pictures. For me this is meaning an enhanced detailed viewing and an unusual creativity. The creator of POKÉMON Satoshi Tajiri has Asperger (Thomas 2007). His obsession of collecting bugs became the successful game POKÉMON where you collect monsters.

With the help of a schedule through this period, I would get a better overview for the upcoming tasks. Keeping daily notes of my work would help me to make a comparison with the Gantt chart and the actual progress. This would provide me with means of updating my priority list and get the game ready in time.

1.5.2 Gantt chart

Gantt charts (Eklund 2011) are bar charts that are placed along a timeline sheet. It is a way to visualize project schedules with tasks represented as coloured blocks.

The estimated time for the task is shown as the block's length. The block's placement on the timeline illustrates the task's beginning and end.

Gantt charts can be created in any spreadsheet program. I used the free online tool Google Documents.

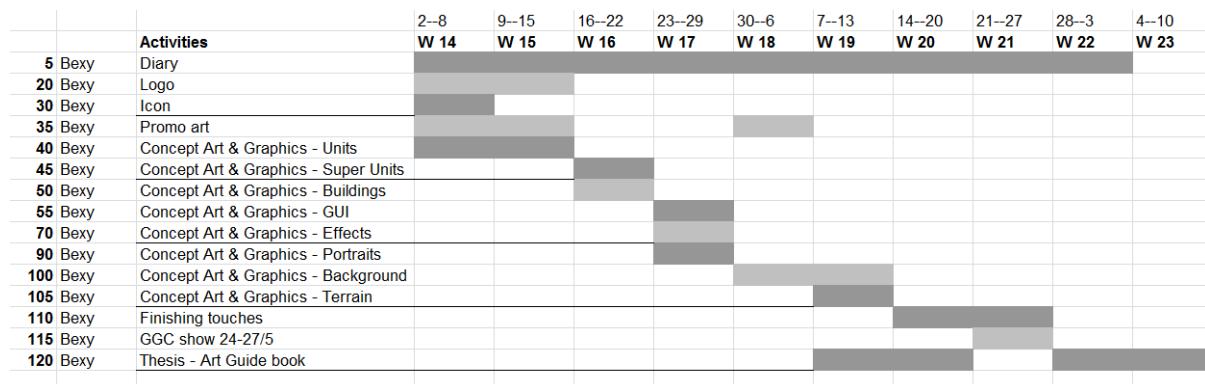


Figure 1 The Gantt chart for the content of the art guide.

The Gantt method was adopted for this project because it is suitable for graphic work, milestone planning, task splitting and it was easy to learn. I have Asperger's syndrome so planning is very challenging for me. Preparing and setting up a Gantt chart (Figure 1) for this project was my tool to make my planning work.

What I did was listing tasks needed to complete the project, which will perform the task, and then I estimated the amount of time each task would take. A task had a colored block that represents a fixed period of time. I created a spreadsheet table with more than four columns and one row per task (Figure 1). The first column depicted the chronological order of the tasks and the first task was placed on the top. The second column listed who the performer was, and the third one contained a short description what kind of task was to be performed.

The numbers listing the task priority where specifically chosen to be three digits for the intention of inserting new tasks higher or lower on the chronological list, or be able to change current task order. You change the second and third digit. That way, you are not forced to do a major redesign of the whole chart if any sudden changes should appear. In projects, it is recommended to take into account unknown factors that might compromise planning.

The last columns showed the characteristically Gantt-blocks marking the time period to perform the task. With Gantt charts, you can illustrate a list of tasks which can overlap each other or be a follow-up assignment requiring the completion of the previous one.

1.5.3 Diary

During the project I systematically monitored and recorded my own work. I used the collected input to make a “perfect” art guide. I kept a diary of my work during the project. The purpose was to see how efficient the different parts of my work were done.

1.5.4 Feedback

The game *DOMAINS* was reviewed at the show at Gotland Game Conference 2012 by the judges, several teachers and public visitors to our booth. The collecting of feedback from both professionals and the general public was a very important part of the process.

During GGC 2012 I spoke to all kinds of visitors, ranging from curious kids to experienced game designers. Feedback on how they read the game interface and perceived the units were noted.

2 Working Process

I wrote my art guide for the purpose of education. I had much to gain from when I drew inspiration and influence from already published work, such as *IMAGINE* (2009) and *Drawn to Life* (2009).

2.1 Structure and Outline

The structure was heavily influenced by image heavy art tutorials on the internet that followed a similar structure and the book *IMAGINE* by Leo Sandberg (Figure 2 and 3). One of the art guide’s purposes is to analyze and deconstruct the example game graphics so the guide was planned to be image heavy.



<p>8 TABLE OF CONTENTS</p> <p>10 Foreword 11 Introduction 12 The Art of Art</p> <p>14 VISUAL STORYTELLING</p> <p>15 Why design something? 16 Keywords & story values 17 Anatomy of a visual story 18 Keywords as visual metaphors 19 Finding a visual language; sit & eat 20 The art of criticism 21 Make it better; constructive criticism</p> <p>23 THE PRODUCTION PROCESS</p> <p>23 Idea 24 Script 25 Pitch art 26 Script breakdown 27 Storyboards & moodboards 28 Design 29 Visual development, concept art 30 Production style guide 31 Training 32 Production art 33 Modeling 34 Storyboarding 35 Frame rates 36 Storytelling 37 Frame sizes 38 Storytelling 39 Modeling 33 Animation 34 Lighting 35 Look development, texturing</p> <p>35 THE SEVEN ELEMENTS OF ART</p> <p>37 LINE 38 PERSPECTIVE 39 COLOR 40 LIGHTING 41 CLOTHES 42 DESIGN APPROVAL 43 SHAPES 44 TENSION BETWEEN SHAPES 45 SPACE 46 ASPECT RATIO, RESOLUTIONS & SIZES 47 COMPOSITION 48 FRAME OR SPACE COMPOSITION 49 ACTION & TITLE SAFE 50 ANIMATION 51 LINE OF ACTION 52 180° RULE 53 CYCLIC MOTION 54 FRAMING 55 SHOT SIZES 56 SHOT DURATION 57 SHOT DURATION 58 FOCUS BETWEEN SCENES 59 SHOT DURATION 60 STABIS, CAMERA SITES & DOLLY 61 CREATING DEPTH PERSPECTIVE 62 SPHERICAL PERSPECTIVE 63 LINEAR PERSPECTIVE</p>

Figure 2 to the left: *IMAGINE* (2009), Cover.

Figure 3 to the right: *IMAGINE* (2009), Index.

The traditional book format would be too crowded if the images and text had to share space. I required that both the images and text followed the same reading pace because their explanation and example often came directly after each other. The distance between image and text should be short so the eyes wouldn’t have to dart back and forth too much (Johnson, 2010). If the eye movement is too extreme, the reader might get disoriented, lose her place in the text and thus breaking out of the reading flow.

The “flow” is the state of mind when the person is fully immersed or has an energized focus (Csikszentimihalyi 1990).

The strategy art guide was compiled from a previous work, the cinematic platformer art guide (Bexander 2012 b), which acted as a template for the new one. The page layout, the index layout, the creativity chapter and the chapter orders were recycled. The cinematic art guide itself drew inspiration for the page structure from IMAGINE (2009).

As far as the art guide structure goes, I went for:

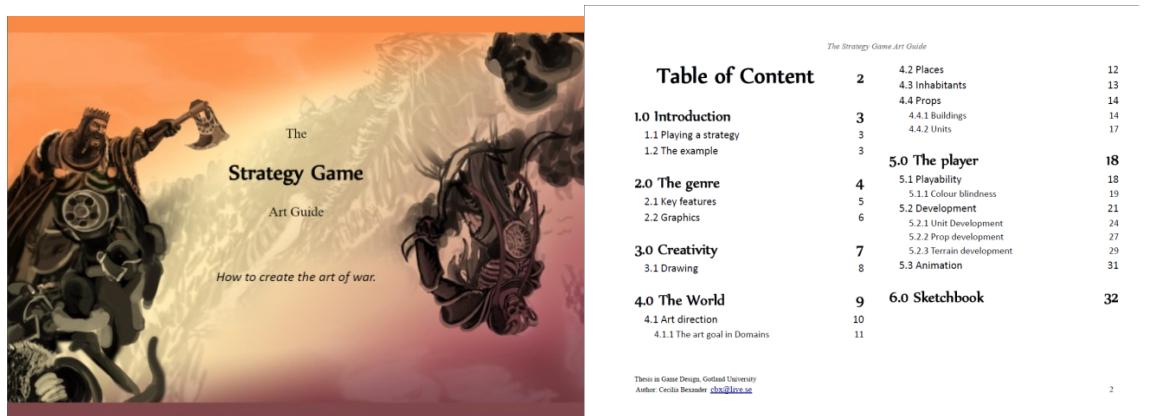


Figure 4 The Strategy Game Art Guide (2012). To the left: Cover.

Figure 5 to the right: Index.

1. *Cover and Index (Figure 4 and 5)* – Preferably concept art illustrations that are eye catching or illustration related to the example project- For the strategy game art guide, the incomplete illustration for the in game menu were chosen because it was the largest picture available, made for the landscape format, had a soft colour shift that represented the different warring factions in *DOMAINS* and the picture itself could be held upside down to focus on the undead character. The page index was split into two columns, the aim was to be as spacious as possible to make reading easier and non-cluttered (Johnson 2010). Ideally the index would fill one page.
2. *Introduction* - The subject intro. The first chapter was deliberately short in order not to overwhelm the readers. Its message is “this is what we will be studying” by presenting the first game example.
3. *The genre* – In depth look at the genre. The description dwells deeper into the main game genre and breaks the genre down into sub genres (if they exist) and pulls existing games such as Warcraft 2 (1995), Settlers 3 (1998) as examples to better illustrate the explanations. Sub genres are determined if gameplay differs greatly between titles, for example gameplay taking place in real-time versus being turn-based. That includes listing recognizable key features in both game design and visual representation. If the reader is familiar with the examples suggested, she can form her own interpretation.

4. *Creativity* - Working creatively. The following chapter is a personal experience and is not about games at all. It goes through the issue of creativity. The chapter will go through how to transform the same motivation that made people doodle in their notebooks into a skill. This by implementing drawing in the reader's current lifestyle to get into a skillful routine.
5. *The World* - The next chapters focus on how I create the visual shell of the game and how the art can assist gameplay and add immersion to the world. This one goes through on how to create an immersive world for the game.
6. *The Player* – I continue on the game's visual shell, with the focus of game characters. The previous chapter described the creation of the world and now it is time to populate it with characters that follows the same game design. It has a short sub-chapter about animation analyzing the most commonly used movements in the genre. Why it is titled "The player" is because it is through the player characters we communicate the game to our user. And an ingame avatar has to be designed to fulfill those needs and still be appealing to the user.
7. *Sketchbook* - The sketchbook collects sketches produced by me during the main example game project. They can be related and unrelated to the example game.

All these chapters were repeated in each art guide. The content was genre specific.

The Strategy Game Art Guide

4.1 Art direction

Beauty is in the eye of the beholder:

The art direction is the thing that decides the look and feel of the world. The very first sketches doesn't have to be related to the chosen art direction at all.

The sketches are supposed to flesh out and share ideas. When the ideas has turned into facts, then where you get assimilated by the art direction, if they belong in the same universe, despite coming from many different origins (and minds).

The art direction is a vital source of information for the player and the game development. Choosing the art direction will affect the quality of the work.

If done correctly, the speed of the development work is independent of the art direction.

4.1a Art direction

It also tells the player what she can see, so she can make a decision on what to do next. Bad art direction may blind the player.

Real life contains vast amounts of information, so much that the brain has to filter a lot and tell us what's relevant to our interests or not.

You game shouldn't be that overwhelming, unless you really want to confuse the player. So the art direction needs to be as clear and as user friendly as possible depending on what the target group is.

So ask yourself, should it be realistic or should you exaggerate?

- The art is the first way you catch the players, so it must be able to sell your game.
- Simple art is easy to produce.
- "Simple" is also a very objective term. Know your limits or learn.
- Know your target group.

The Strategy Game Art Guide

4.0 The World

To create a game of sand you must first create the universe:

Without the world to define them, our character can't exist.

There is no limit how the world can look like. You are its first visitor and it is you who tells everyone what it's like. That is your job.

The world shapes its inhabitants, you won't find a fish in the desert unless the fish has legs and breathe air.

4.0a Domains

The love in the game is of utmost importance when visually designing the units and the game world. It is your first idea on their looks. In all strategy games, they revolve around THE CONFLICT.

The conflict's reason can be about anything, but the conflict is what separates the armies from each other.

Domains conflict is as simple as being visual, it is the Humans versus the Undead.

The living versus the dead.

- You can make up anything for your world.
- The habitat shapes the inhabitants.
- To make a world interesting, some kind of CONFLICT must exist.

The Strategy Game Art Guide

4.1a Art direction

4.0 The World

4.0a Domains

Figure 6 to the left: A 3 column page, the bullet point summary and picture of the chapter topic. By being visually split into several pieces, it is easier for the reader to scan the content. The bullet point summary is standing out by looking different from the text body (Krug 2006).

Figure 7 to the right; A second example of a chapter. An image would not be limited in filling up one column space. It helped cutting up the text into more smaller pieces and images provides a unique structure that break away from the standard of the guide

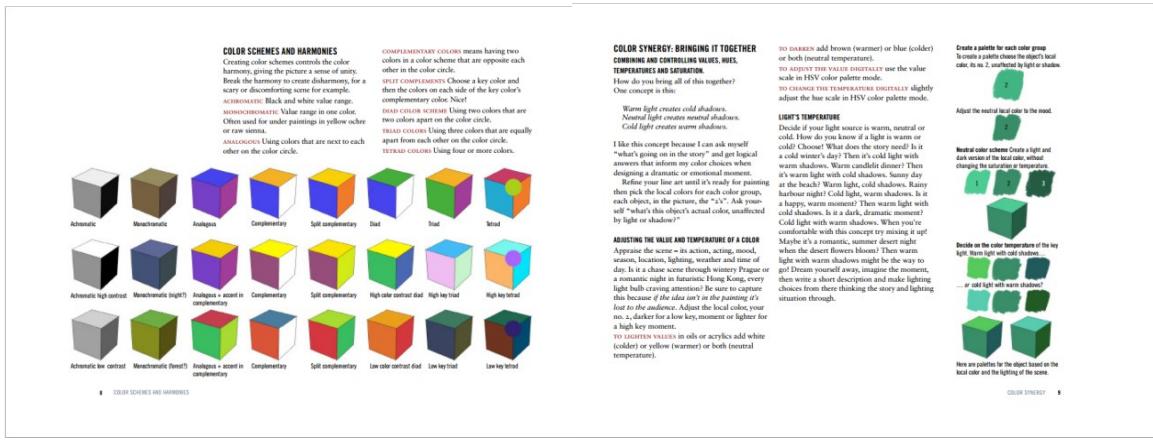


Figure 8 IMAGINE (2009). Text format split into columns.

2.2 Development of the art guide

I had previously created a prototype art guide in the course Advanced Game Project (spring term 2012) in Uppsala University, Campus Gotland. It was about the cinematic platformer game genre which is a more realistic approach of the jumping on platform games, like including realistic movements and acceleration instead of instant actions. I used this as a template for the strategy game guide. I went through my reference materials and highlighted important topic titles for my guidance. I proceeded to fill each topic with notes. The text would hint which images that could assist the visual learning and thus reduce superfluous wording. I proofread my text on what key information could be summarized into bullet points. If I've acquired a basic understanding on what the summary boxes would contain I could get a feel on their final sizes.

The layout has to be adapted to the current text size. It constantly changed during the writing process. When I was editing the text, my actions affected the size of each piece and the changes pushed around the related images that had been inserted into the document. The text was even more reduced and images were sized with the goal of keeping it all on the same page. Font size and picture placement played a major role. My goals for each chapter were;

- Fill at least one page.
- Always end in a summary box.
- Have at least one image...
- ...and/or summary box.

My reason for writing the text in paragraphs and apply images and boxes was to break the visual monotony caused by a massive wall of text. For some readers, such walls of text can be difficult to read and keep track of where you are in the text (Krug 2006).

3 Analysis

3.1 Project outline

The artwork and the time frame for the making of it were calculated and presented in a Gantt chart (Eklund 2011). Since my tasks are designing and drawing each soldier type in the game, the volume of the required artwork can be adjusted by changing the amount of different soldier types in the two armies.

It was a requirement to have a playable game at the GGC 2012. For that reason it is important to have a plan in advance in case some parts of the work take too much time to be completed. Time is a limited resource. It is important not to use it on the wrong things.

The planning was made by first identifying all the separate activities needed and then estimating the time required for every activity. I was advised by an experienced project manager, Roland Bexander (2012) in the IT-industry to double my estimated time. That turned later out to be one of the best pieces of advice I have been given.

My activities were concept art and game graphic related; While the game designer provided names and unit statistics, my job was to give each unit a character concept with complete looks, armour and weapons, I also made pixel spell effects unit animation and graphics rendering. I also had to take over the graphic user interface (GUI) since the intended GUI-artist declined the assignment. The extra tasks were also included in the planning.

Activities such as the graphics were given a priority level and were placed in a Gantt chart. The priority order determined in a worst case scenario which graphics the game needs to function, and which graphics the game could do without.

What was not included in the Gantt chart were unknown activities. The unknown activities were unexpected events that suddenly compromised the current planning. Unknown activities could be unrelated to the project at whole but still draw attention from the tasks in the chart. In my case, while I was providing animation for the units, it was the request and making of the game's trailer and the construction of the project's website since we lacked any kind of promotion.

The game designer and the programmers added new characters in order get better balance the game so the player opponent could have more equal chance of winning. This was at the same time when the non-planned trailer was dropped into my lap. The team was so focused on the game development that none of us set aside time and resources on the making of promotional material. When the issue with the missing trailer was finally brought to attention we came to the conclusion that I was the most competent in creating and recording a promotional trailer, highlighting the lore in the game. None of these had anything to do with game graphics, which was one of my two goals, and was purely for promotional purpose of the game, but it was one of GGC 2012's criteria in order to be part of the conference. So it had to be done.

The consequences of the extra activities with the trailer-making and homepage-building forced assigned time to be “borrowed” from other tasks. Tasks like the GUI-finishing touches and the work on the art guide. To have a playable and

enjoyable game on display at the GGC 2012 was the main priority. That part of the plan remained unchanged. After GGC 2012, I could take my time in compiling the materials collected and the experiences gained from the game development and start writing the art guide.

3.2 *Choice of layout*

The book IMAGINE (2009) written and drawn by Leo Sandberg, senior lecturer at Uppsala University, Campus Gotland, provided once again some great insight after I analysed it. I noticed it followed a certain pattern that seemed to benefit an easy reading. I also inserted something else (see c) I had seen in many themed books aimed for new students.

- a. *Three columns* - When introducing a new subject to a potential student, they should not encounter a wall of text. It might discourage them to continue reading if they cannot navigate properly through the page (Krug 2006). That's why I chose to crop the text into smaller and shorter sentences and divide them into columns. It gives the illusion of a shorter text. Images were not limited to the division and could overlap several columns which created variation and unique page identities when reading (Figure 4).
- b. *Landscape mode* - The landscape mode, inspired by IMAGINE (2009) was favourable in displaying several pictures in a row and a good choice for a teaching art book. Larger illustrations were displayed in a landscape mode while humanoid character illustrations were presented in the portrait mode. The landscape mode was also suited to display the cropped text in the chosen three columns. The heights of the columns were of course limited to the landscape-shaped page's short height, which assisted the illusion of short text snippets.
- c. *Bullet points with summary* – Summaries help to pitch the text. It is more likely that short texts will be read (Krug 2006). While not present in IMAGINE, I included it for accessibility reasons. The square with bullet points at the end of each chapter (Figure 6) was adapted for the beginner student in mind, especially those who might suffer from dyslexia (Kaufmann 2010). If the original text was not short enough, a summary of each text highlights the most important bits in bullet points and marks the end of a teaching chapter. It also gives the reader a quick repetition of the chapter thus enhancing the learning process.

1.0 Introduction

The art in the game is the very first thing the player sees. The rest, such as rules and mechanics, are hidden in the “backstage” of the game.

The art provides vital information on where and how the player should act according to his surroundings. The art can guide, deceive and touch.



1.2a Icon for the game Domains.

■Information squares like these will summarize each chapter.

1.1 Playing a strategy

Have you ever played a strategy game? You have probably heard of chess. That is a strategy game, and a turn-based kind.

Strategy games are considered a “Thinker’s game”, which emphasize planning and tactics.



1.1.a Chess with their black and white teams.

1.2 The example

In this book we will be drawing examples from a real game project, “Domains”, which itself is a turn-based strategy game.

We will go through how we came to a playable game, from an idea to game graphics. This will not be an art tutorial on how to draw, but rather present theories that can apply to any skill level with any artist.



1.2.b A zoomed in screenshot of Domains.

Thesis in Game Design, Gotland University
Author: Cecilia Bexander cbx@live.se

3

Figure 9 to the left: introduction, genre, example analysis and summary box.

The images above are examples from the Strategy Game Art Guide. The first page (Figure 9) introduces the topic of game art, the game genre discussed and the example that is the subject for the deep analyzes. This is the first page where the reader gets a taste of how the book is presented: Short chapters with images, the text is organized in three columns and the box will summarize at the end of the chapter.

6.0 Sketchbook

Samples of the concept art created during Domains' development.

They both consist of pencil sketches and digital paintings.



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Author: Cecilia Bexander cbx@live.se

32

Figure 10 End chapter showcasing illustrations and sketches.

The end chapter (Figure 10) had little to none text, and was just a gallery. It showcased illustrations and sketches that were produced during the example project. The purpose was to show that doing off topic drawings can benefit the project if it helps improve the artist's skills.

3.3 Diary

The planning was compared daily with a diary. Checking progress against planning could have been done without keeping a diary. But a diary was a requirement assigned by my teachers to coax us into the habit of keeping documentations. Close to the opening of the GGC 2012 show, no entries were made in the diary due to the increased workload.

Keeping a diary, proposed by others, was not helpful for me, just a loss of my time. It added unnecessary pressure on my current burden and I had preferred to work without diary keeping. But if some documentation was required, I would have set aside time. I prefer to follow a task list and save the work in different versions with date stamps. After the end of a work week I would have made a summary of completed and uncompleted tasks. That would have been more time efficient for me.

3.4 Feedback

Feedback collected during the GGC 2012 as mentioned above was most exciting to receive. Did they match the vision of the artist? Had the artist succeeded or failed in her visual communication to the player? How did she succeed/fail? And why did it succeed/fail?

Specific feedback that suggested improvement of the graphics was that character details were too small to see. And characters in their low resolution looked too similar. I became blind to that fact during the work with the pixel art. When I zoomed in to work with each pixel, I had a better insight of the difference in the details. But in their correct resolution, the players couldn't see the variations because of its small size. If the graphics had been magnified the pixels' differences had been more visible. But on the computer screens used in the *DOMAINS* booth, it was still hard to tell. The solution to this is to look over the character designs. They should have had more unique silhouettes to better show their individual differences.

The GUI for the GGC 2012 was perceived by some as confusing and needed to be simplified in order to make it easier to read all in a quick glance. Inside the game, the total amount of gold and the gold income per turn were mixed up by many players.

4 Conclusion

4.1 The Artwork

The game *DOMAINS* was only lacking the artwork, but in the rest of the areas (game design, programming) it was already a complete game. Since the game design was already set, I was presented with an opportunity to adapt the art specifically to the game's need.

My art had to be drawn meaningful with multiple goals in mind (Kaufmann 2010) and sometimes, these goals may conflict. One of the requests of the lead designer were "pixel art" which is a form of digital art using raster images and top-down perspective. Also, my unit canvas was small; 64x64 in a full screen resolution of 1280x720. Pixel art is known for being tiny artwork, so readability was often in conflict with being faithful to the concept art.

Being faithful to concept art should be more focused on transfer a feeling into the game instead of meticulously accuracy. The mind is capable of filling in the blanks (Kaufmann 2010) if you manage to present a feeling when you introduce art. Too much detail in small objects can conflict with or even limit the game output.

To be completely honest my first major goal was to produce an art guide. Therefore if I had ignored the art guide it would certainly have been more time available for perfecting the art of the game itself.

4.2 The Art Guide

Competence cannot be taught from a book alone. Certain things have to be experienced in real life, such as team work. I wanted my follow-up to result into a tutoring guide. Game development branches out in several different areas, and my current knowledge about these different branches was limited. That is why I always identified myself as a beginner game developer. That would be advantageous to the art guide since I would be able to judge things from a beginner's point of view and understand better the reasoning behind the decisions made during the project.

With every failure comes a lesson. It was important for me to forsake personal pride and be ready to admit mistakes because I had to view this objectively. Mistakes are interesting because many factors plays in their making and identify these factors would provide a unique insight in bad decision-making that wasn't visible during the heat of the project. After the project's debut in GGC 2012, I had gained valuable insight about the graphics which would be suitable to include in the art guide. I gathered art materials from the project for a post mortem, I took my prototype art guide (Bexander 2012 b) and used it as a template (the prototype was about a different game genre, the 2-Dimensional cinematic platformer). I described several stages in conceiving to finished graphics and the reasoning behind each step.

By being able to identify my mistakes and analyze the decision-making behind it, I could compose suitable lessons that were needed for the art guide to be a guide.

Since there are now two art guides, expanding into more genres will be easier. The two art guides covers vast different game genres with each a unique look. And these unique looks have different art solutions. There is no art solution that covers all the

game genres and the indie game development field continues to experiment with game genres. I find it suitable to introduce beginner developers to the first core genres that shaped the many variations of it that exist today.

4.3 Work challenges

A second graphic artist in this project would have been most appreciated due to the workload. Being the only one who makes all the graphics in a project puts a tremendous responsibility on the artist. I imagined I would have made a more complete game, with unit animations, in time for the GGC 2012 if my workload had been reduced. I was the only graphic artist on the project and was working on distance in Visby while the other team members resided in Klintehamn.

As an artist, you are often assumed to be skilled in all kinds of visual work, even things that might be out of your field of expertise. My speciality is 2D art, concept art and character design. I was also made in charge of Graphic User Interface, promotional material (homepage and teaser trailer) and some voice-acting. A huge workload with tasks exceeding the speciality field is common in small projects with no budgets, since you can't rely on or afford outsourcing any tasks.

Since I worked alone, I did not have the chance to "beta test" my art. This actually turned out to be positive for my art guide. Now I could use the untested art coupled with the received feedback as educational examples on how **not** to do art and also witness the result of it.

All games can never have enough QA (Quality Assurance, or play testing) and the same applies to game art. Game art is objective, it should never mislead unless it serves the purpose of game design. But you also risk getting stuck in an infinite loop, adding finishing touches for all eternity. It really never ends.

4.4 Feedback

The oral feedback during the Gotland Game Conference 2012 proved to be invaluable since I got opinions both from professionals in the industry and conference visitors (future consumers). The conclusion of the received oral feedback is included in the art guide and got especially highlighted when the guide shows examples of failures.

4.5 Reflection

Looking back, I think this project has been in general very satisfying. It went well because a playable and enjoyable game was ready in time for the GGC 2012 opening.

My art guide contains, at least for me, a lot of useful hints and important guidelines about the making of art for the strategy genre. Its intent is to guide new artists into making graphic art with a specific purpose and highlights game design choices. It should also teach the readers how to analyse their own drawings without getting too attached to their work.

My goals were:

1. Create a pedagogical guide for making art in a strategy game.
2. Produce 2D pixel graphics for the game *DOMAINS*.

Both goals had been reached. I have now two completed art guides in the appendix for two different game genres. I delivered the game art for *DOMAINS*. All of this is a result of my acquired skills from my higher education studies and pending bachelor degree in game design. By writing a scientific report, I have been forced to methodically examine and in detail motivate the disposition, structure and overall layout of my art guide. This has rendered me a greater understanding of the writing process in creating pedagogical literature. I've gotten better at conveying an idea for those who do not share the same background as I have or think in the way I do.

4.6 Further research

To go further in the field of game designed artwork, there are more genres that I think would benefit from art guides. A very interesting topic would be to analyse and compare different game design artwork guides and by doing so creating an overall generic model and guide for beginners, since there are many newer games out there that tend to mix genres.

Another very interesting topic of research would be to map these models and theories to the very successful Swedish game industry. What guidelines do they follow when making game art for the new household game, and what “rules of thumb” do the lead game designers really use in their day to day work? And how can they still be innovative while following these rules? And is it easier to be more innovative if we allow ourselves to break or bend these rules?

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5.1 Imagery

Figure 1 The Gantt chart for the content of the art guide.....	6
Figure 2 to the left: IMAGINE (2009), Cover.....	7
Figure 3 to the right: IMAGINE (2009), Index.....	7
Figure 4 The Strategy Game Art Guide (2012). To the left: Cover.....	8
Figure 5 to the right: Index.....	8
Figure 6 to the left: A 3 column page, the bullet point summary and picture of the chapter topic. By being visually split into several pieces, it is easier for the reader to scan the content. The bullet point summary is standing out by looking different from the text body (Krug 2006).....	9
Figure 7 to the right; A second example of a chapter. An image would not be limited in filling up one column space. It helped cutting up the text into more smaller pieces and images provides a unique structure that break away from the standard of the guide.....	9
Figure 8 IMAGINE (2009). Text format split into columns.....	10
Figure 9 to the left: introduction, genre, example analysis and summary box.....	13
Figure 10 End chapter showcasing illustrations and sketches.....	14

6 Appendix

Bexander C. 2012 a, <i>The Strategy Game Art Guide</i>	22
--	----

Bexander C. 2012 b, <i>The Cinematic 2D Platformer Art Guide</i>	67
--	----



The **Strategy Game**

Art Guide

How to create the art of war.

Table of Content

	2		
1.0 Introduction	3	4.2 Places	12
1.1 Playing a strategy	3	4.3 Inhabitants	13
1.2 The example	3	4.4 Props	14
		4.4.1 Buildings	14
		4.4.2 Units	17
2.0 The genre	4	5.0 The player	18
2.1 Key features	5	5.1 Playability	18
2.2 Graphics	6	5.1.1 Colour blindness	19
3.0 Creativity	7	5.2 Development	21
3.1 Drawing	8	5.2.1 Unit Development	24
4.0 The World	9	5.2.2 Prop development	27
4.1 Art direction	10	5.2.3 Terrain development	29
4.1.1 The art goal in Domains	11	5.3 Animation	31
		6.0 Sketchbook	32

1.0 Introduction

The art in the game is the very first thing the player sees. The rest, such as rules and mechanics, are hidden in the “backstage” of the game.

The art provide vital information on where and how the player should act according to her surroundings. The art can guide, deceive and touch.



1.2a Icon for the game Domains.

■ **Information squares** like these will summarize each chapter.

1.1 Playing a strategy

Have you ever played a strategy game? You have probably heard of chess. That is a strategy game, and a turn-based kind.

Strategy games are considered a “Thinker’s game”, which empathize planning and tactics.



1.1.a Chess with their black and white teams.

1.2 The example

In this book we will be drawing examples from a real game project, “Domains” (1.2b), which itself is a turn-based strategy game.

We will go through how we came to a playable game, from idea to game graphics. This will not be an art tutorial on how to draw, but rather present theories that can be applied to any skill level with any artist.



1.2.b A zoomed in screenshot of Domains.

2.0 The genre

To see the future one must look at the past.

The Strategy game type is in general quite old. Chess and Go have survived through many dynasties, being the favourite games of kings, queens and emperors.

Known for sharpening one's wits, the games were a welcome addition to the ruler's life where being a skilled military strategist would mean a successful despot.

As computer games they began to emerge during the 1980s and have since then split up into several sub-genres.

4X – The four X stands for explore, expand, exploit and exterminate. They are a lot about micromanagement, ranging from technology, economy, trading and of course, military. They usually take long time to complete.

Examples: Sid Meyer's Civilization.

Artillery – Two or three players have units or teams (the first game had tanks) spread over heavy terrain, where they aim and fire their weapons during a turn.

Examples: Worms.

Turn-based strategy (TBS) – You make your move during one turn and then wait for the opponent's turn.

Example: Heroes of Might and Magic and Domains.

Turn-based tactics (TBT) – You control few units instead of large scale armies and perform operations and missions. Has its origin in miniature war gaming (which are tin soldiers).

Example: Final Fantasy Tactics.

Real-time strategy (RTS) – It's more action-packed since there are no turns. Their artificial intelligence is dumber than TBS since it's harder for the computer to improvise and predict the human player.

Example: Warcraft 3.

Real-time tactics (RTT) – It's the same as TBT; gameplay where you're controlling few units, except it is in real-time.

Example: Bullfrog's Syndicate

War-games – It looks more similar to a board game since you play on a map. They are often based on real wars and don't have much graphics.

Example: RISK

As you can see there are plenty of games to be found, but they still have a few things in common.

- Chess and Go are strategy games.
- 4X stands for explore, expand, exploit and exterminate.
- Artillery are tanks that aim and shoot over a hill to the enemy side.
- War-games are played on a map and is often historically accurate.
- TBT means Turn-Based Tactics. Focusing on small scale = few units.
- TBS means Turn-Based Strategy and control larger armies and bases.
- RTS means Real-time Strategy. Same as TBS except it's happening in real time.
- RTT is Real-time Tactics and the player steers a small team instead of armies and buildings.

2.1 Key features

Strategy games require planning and tactical thinking in order to succeed.

The soldiers or units all have different abilities and weakness that can be used effectively against the opponents. They are often balanced like paper-scissor-rock.

For example: a ranged archer may be great against cavalry, but they are weak against a soldier, which in turn is weak against cavalry.

By using archers effectively, the player can take out her opponent's strongest units, which is the cavalry, as long as she protects them from soldiers.

In order to keep track on all these weaknesses and information, the player require a work space that can provide her the info in a more lighter form.

I will list the key features that can be found in most strategy games.

- Minimap – good to see where your units are when you play on a large battlefield.
- Player controls more than one character.
- Units have different abilities.
- Economy. Often units come at a price, and require certain criteria in order to be attained.
- Warfare. You have to fight other factions for resources or territory.

- Balance the game so it's fair for all.
- Units have both different strength and weaknesses that can be compensated with other units.
- You have a map so you keep track.
- You play more than one character.
- You deal with resource management.
- You wage wars.



2.2a *Dune II* (1992), a top down example.



2.2b *Runescape* (2001) is a web browser-based online role-playing game and one of the earlier versions was (in)famous for using billboarding.

2.2 Graphics

The graphics are the shell of the game, giving it life; otherwise it would simply be "move A to B, subtract 3 values". Graphics are an effective way to immerse the player into the fictional game world.

Strategy games are displayed in various graphics, but there is one thing that they all share; they're always displaying the game world from a top perspective, where the player can have a large overview of her base and armies. So the player is basically seated in the sky and "play god".

Since strategy games were part in the early medium of computer games, the first titles shared the earliest graphics. You might have heard of the terms "pixels" and "sprites".

Pixels are the tiny squares that build up a computer image. When talking about screen resolution, the width and height is counted in pixels. Sprite is an image that can move around the screen without the aid from other graphics.

These graphics listed were the most commonly used when the computers weren't advanced enough to handle full 3D. Several were an attempt to give the illusion of 3D.

Top-down perspective was one the first graphic types and is also one of the oldest. Which means the player only saw the roofs of buildings and peoples' heads (2.2a).



2.2c *Settlers 3* (1998) is a RTS with isometric view.

Bill boarding (2.2b) can be described as 2-dimensional pictures, called sprites, standing in a 3-dimensional environment. The flat picture (the billboard) is always facing the camera.

So to simulate that the flat picture has volume when said object rotates, it switches between other pictures showing the same object, but drawn from a different direction.

Isometric view (2.2c) is a popular choice for many genres, and the most common among the Real Time Strategy. Isometric view can both be displayed in 2D and 3D.

- Strategy games are often shown in a bird view so the player can see everything on the field.
- Billboarding is 2D pictures in a 3D world. It was a technique used by old computers so they could have plenty of units on screen.

- Top down perspective is pure bird view with heads and rooftops.
- Isometric view is meant to look like 3D, but you only see it in one angle.

3.0 Creativity

Crafting something real from your imagination is a random process happening during an unknown time. You'll never know exactly what the end product will look like, even if you had a plan at the start.

Sometimes when you have one or many assignments ahead of you, you might feel overwhelmed.

So where do you exactly start? You have a deadline to complete and you simply can't order inspiration to come to you.

The first thing is to forget the pressure. That will only limit you. Forget norms and rules. That will only narrow your visions.

Many people usually turn to other media for inspirations, like books, movies and games.

But that search for inspiration can easily turn into a distraction and suddenly you've lost precious time.

I would recommend that you should focus first and foremost on your own crafting rather than turn to the results of others.

- Search inspirations from things you like and analyse why you like it.
- Focus on your own creativity and pursue originality.
- Redesign existing concepts; do fan works or something original.

3.1 Drawing

Learning the basics in drawing is more important than learning painting software. Anyone can learn to handle a new tool, but learning to paint is harder and can take years of practice.

Surprisingly, fan art as a hobby can be a great way to practice your skills to copy another artist's style.

I use to challenge myself to make my fan art indistinguishable from the original. Your ability to imitate is a very useful skill. That and speed. Fast delivery is even required.

Sit down with a pencil and paper (or a computer tablet if you prefer) and sketch whatever you feel like.

You might feel happy, sad, angry or horny at the moment. Let that out on the paper! It doesn't have to relate to the project at all. The point of this is that you must start create something! Do anything that let you enter an inspirational flow.

This is a moment of reflection, and an exercise of learning to love the art. Because you're supposed to do it even when you feel tired, stressed, sick or half dead.

If you still remain a "numbskull" devoid of inspiration, collect a moodboard of pictures rather than watch a cool movie (you can use the stills from the movie in your board).

A moodboard is a collection or a montage of images. Its purpose is to invoke a certain mood of the viewer. It is also a great tool to show to others what feelings you're trying to convey with your art direction.

A moodboard's only purpose is to inspire. It cannot distract you and steal time with its awesomeness, interesting plot and wicked lyrics.

You're not supposed to think and process information, you're supposed to feel and try out new things. Remember that you will always be influenced by things you see, hear and experience.

So your drawings will be a mixture of new, unique creations and everything you associate with "cool".

Things that are innovating are actually a mixture upon mixture of the really good stuff.

- Doodle at random a little bit, before you get to work.
- Always carry a sketchbook.
- Create a moodboard, if you wish to stick to one style or one feeling.

4.0 The World

*To create a grain of sand you must first
create the universe.*

There is no limit on how the world can look like. You are its first visitor and it is you who tells everyone what it's like. That is your job.



4.0a A first sight into the world of Domains. It is a harsh and cruel place... and very brown.

Without the world to define them, our characters can't exist.

The world shapes its inhabitants; you won't find a fish in the desert unless the fish has legs and breathe air.

The lore in the game is of utmost importance when visually designing the units and the game world. It is your first idea on their looks. In all strategy games, they revolve around THE CONFLICT.

The conflict's reason can be about anything, but the conflict is what separates the armies from each other.

Domains conflict is as simple as being visual; it is the Humans versus the Undead.

The living versus the dead.

- You can make up anything for your world.
- The habitat shapes the habitants.
- To make a world interesting, some kind of CONFLICT must exist.

4.1 Art direction

Beauty is in the eye of the beholder.

The art direction is the thing that decides the look and feel of the whole world. The very first sketches don't have to be related to the chosen art direction at all.

The sketches are supposed to flesh out and share ideas. When the ideas have turned into established facts, that is when they get assimilated by the art direction.

With the help of art direction, they are added into the same universe, despite coming from many different origins (and minds).

The art direction is a vital output of information for the player and the game development. Choosing the art direction will affect the quality of the work.

It determines the speed of the development (which is dependent of the artist current skill).

It also tells the player what she can see, so she can make a decision on what to do next. Bad art direction may blind the player.

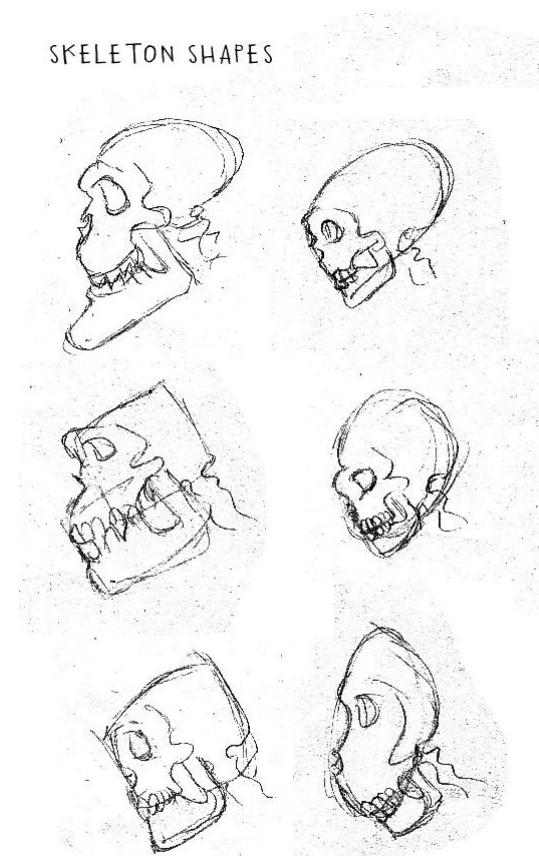
Real life contains vast amounts of information, so much that the brain has to filter a lot and tell us what's relevant to our interests or not.

Your game shouldn't be that overwhelming, unless you really want to confuse the player. So the art direction needs to be as clear and as user friendly as possible, depending on what the target group is.

So ask yourself, should it be realistic or should you exaggerate?

- The art is the first way you catch the player's, so it must be able to sell your game.
- Simple art is easy to produce. "Simple" is also a very objective term. Know your limits or learn.
- Know your target group.

SKELETON SHAPES



4.1a A skull can be hard to distinguish individual facial features unless you go for a cartoony look.



4.1.1a Still from Domains cinematic trailer. The camera panned over this long drawing, while a narrator explained the lore.

4.1.1 The art goal in Domains

The undead race in the game is in fact the ancestors of the humans. To reflect their shared origin they share the same style in some aspects; Imperial Vikings.

But what distinguish the humans from the undead is that the humans are a fairly advanced race, being active and innovative much longer.

Thus they have embraced steam technology since their society is at the beginning of the industrialisation. So humans bear steam punk resemblance aside the imperial Viking look.

The undead are in fact the ancestors of the current humans and do not possess their steam technology but instead rely on their magic and ancient traditions.

The whole undead army is mostly skeletons but other varieties of human corpses exist. No demons or elves exist in the world of Domains. So the game does not belong to high fantasy genre.

The undead are strong traditionalists and have ancient knowledge and secrets at their disposal and thus they rely heavily on magic.

To represent their mysticism, an ancient culture should be chosen and I picked ancient Egyptians, since it is the most well-known of all the ancient human cultures.

Ancient Egypt is famous for its mummies, their rich ornaments, advanced civilisation and mysticism. And they are obsessed with the afterlife. So they fit the undead race in more than one aspect.

The undead come in many different forms. The most common and powerful undead still retain a body which often is their original human corpse.

Skeletons are more progressed in the decomposing stage and thus have been undead for a longer time. Many of the older skeletons have high positions in the undead society of Domains.

- Humans know steam technology.
- Undead know magic.
- The undead are human ancestors.
- Vikings are always awesome.

4.2 Places

Explore, expand...

So how is a world born? Some may begin in creating a universe, and then create its inhabitants. The desert could mean that all life have to adapt to its harsh conditions.

You can also look at our own history. I have divided it into several parts:

- Hunters & gatherers: Back when we were cavemen.
- Agriculture: Mankind began to farm.
- Renaissance: Fine art and alchemy.
- The enlightenment: Everyone had access to books.
- Industrialization: Factories and steam machines
- Space age: Man began the race to the moon.
- Information Technology: Computers and modern science.

Each of these periods took a great leap in technology. And technology has shaped the environment we live in. It has changed wilderness into check patterned farmlands or exploited wastelands.

Intelligent creatures tend to shape their environment to suit their own needs. And I expect any reasonable alien civilization to blow up a few mountains if it blocks a great view.

But still, if a fire planet would be awesome, don't be afraid to include one.

Another interesting aspect to take note of is to see where in the world these historical periods took place. Near the equator or up in the northern parts?

How does the geography look like?
Deserts, oases, jungles or snowy plains?

The world in Domains we're about to visit have industrialized nations torn by war.

The nations compete with steam technology and ruthlessness. On the other side of the borders are the ancient civilizations ruled by the living dead, which are carving a piece of territory for themselves.

- Try to make your design choices logical, but don't forget the rule of cool.
- Look at our own history to gain inspiration.
- Domains is a fantasy world that has entered the industrialization period.

4.3 Inhabitants

... exploit and exterminate.

In a strategy game, the players have to household resources and at the same time expand her region. To expand she has the help of her army of soldiers and (maybe) merchants.

Most of the wars are about resources. When two factions compete of the same resources, either they have to learn to share or eradicate the other. This is the basic desire to live. In other words: survival.

The “inhabitants” of the strategy world are the soldiers on the battlefield, and often they are dependable on these resources to exist.

Most of them appear in anonymous masses and lack an identity to relate to. So they're no more “characters” than actual props. That is, your tools and power to counter a challenge.

Unique units would be counted towards as real “characters”.

To create a world, some may begin in creating the characters and then ask them questions;

- “Who are you?”
- “What do you fear?”
- “What do you desire?”
- “Do you want to die?”

The last question is vital for the character, because self-preservation is part of the gameplay, be it the player or the enemy. A character more willing to die can appear more brave and self-sacrificing despite fearing the situation, making it a hero.

A character who wants to live may act like a coward and are cautious around new things.

Everyone living in the world may answer the questions differently, shaping the overall look of it. It could be a safe world or a dangerous world.

The character's answers will tell you how the world and the society are.

The clothing will tell the world's current season/temperature and the character's culture, job and social status.

In Domains, the characters that the player meets are all soldiers (the units) ready to die for their cause. Many of these units are differently equipped depending on their rank in the army.

Some are mere cannon fodder while others are more valuable, both in strength and cost.

- If you like doing character designs, make up some characters and then build up a world around them.
- Engaging characters are driven by desires similar to us. That's how we can sympathise with them.

4.4 Props

You must construct additional pylons!

The prop's main purpose is to serve the gameplay. In a strategy game, the props would be the anonymous units and buildings.

Why do the units count towards props and not characters? Characters are mostly story driven while the unit's action is a result of the player's desire. It has no desires of its own.

It's common to have a building or unit that is important for win and lose conditions or complete extermination. The conditions are mostly about destroying that prop or lay claim to it. It can be a king or headquarters.

Good art that use recognizable features can reduce the learning curve of your game. When the player can spot what each prop do, no complex tutorial is needed.

- The prop is part of the gameplay
- Units are props and not characters, unless given a unique name.

4.4.1 Buildings

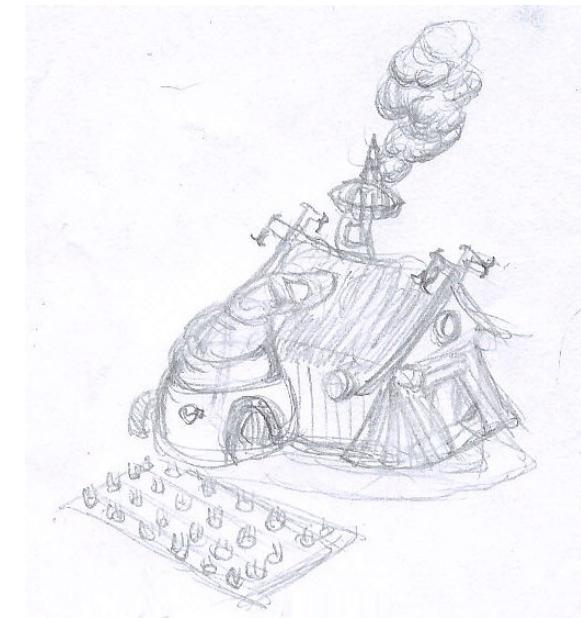
The building's role is to produce units, upgrade or expand borders.

The building architecture should be able to tell their purpose right away.

For example:

- An armoury can have weapons littered outside or have a shield sign.
- Outposts and guard towers should stand tall.
- Barracks can have a training ground or look like a small keep.
- Farms are recommended to at least have a small tilled plot with greens (vegetables) or yellow plants (grain).

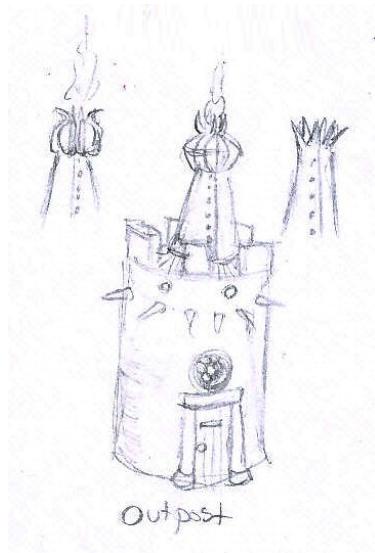
Domains aimed to follow these guidelines since the imagery has been established in other game titles.



4.4.1a Farm, with a steam engine and one plot.



4.4.1b Farm, with a steam powered waterwheel.



4.4.1c Human Outpost is a stone guard tower, with several different chimney designs, as homage to the steam technology. Spikes are added to reflect its hostile role as border surveillance.



4.4.1d The final design has an observatory at the top. But it kept the spikes.

You don't have to re-invent the wheel all the time. It's a safe bet to follow old patterns if you wish to make a game easy to understand at the first sight.

For example, if you look at image 4.4.1c, the human outpost, and compare it with the final result at image 4.4.1d, you can see that an observatory had been added to reflect its role in expanding borders.

These listed above are no concrete rules but they are the most well-known imagery. And remember to know where to place the team colours.

For houses, a common place to place team colours are roofs. If a building lacks a roof, banners and flags can provide sufficient places for colouring.

In the game Domains, the buildings have to match their faction.

The undead have Egyptian features. Egyptian architecture contains many geometrical forms with sharp edges (think pyramids).

The humans with their steam technology focus on brass details and metals with its ability to have curved shapes.

In real life, planning and building a house is a work that can take months. In Domains, the player can make houses and walls suddenly appear out of thin air in a single turn. That is, if he has sufficient gold (the game's main resource).

If it is part of the game to use buildings, the player can accept it as part of the gameplay, separating it from the real world. That is called "entering the magic circle".

Within "the magic circle", such absurdities like the instant building speed are accepted as norm. The player might do things in the game world she normally wouldn't do in real life, simply because the game allows it.

Most strategy war games are about genocide and total dominance. This seems to be perfectly acceptable methods in the game world. Because it could be a part of progressing in the game.

If you aim to be more believable, without adding too much abstract elements, they require lore and design.

In cases like real time strategy games, a progress animation is usually added to indicate time spent and time left without breaking the immersion. That is useful when displaying a building's construct site without blatantly showing a loading bar.

Little people can gather at the construct site and build a house. Or a fresh recruit enters the battlefield from the training barracks shouting out "I'm ready". This is output information to the player that confirms her commands.

This function however, is merely cosmetic, but it will add to the illusion of life.

It can be optional for a TBS to show construction animation. But in a RTS, construction should be a vulnerable opportunity that the enemy player can exploit for a devastating attack.

When the player produces a powerful prop, she can easily turn the tide of battle. But it can also spell out her doom if it is a slow and a costly process.

- The building should be decorated with items that highlight their role.
- Add an animation when the house gets built.
- "The magic circle" means the player has shielded herself from the real world when she's entered the game world. Game world rules and morals apply.



4.4.1e From the game *Warcraft 2* (1995), which is a Real Time Strategy game, each house share the first two phases of the construct animation but at the last two phases, each building has a unique sprite, showing the half-finished house.



4.4.1f The final design for the farmhouse in *Domains* takes after its predecessors with a small plot to grow food.

4.4.2 Units

Units are props but they are functioning entirely different from buildings. The biggest difference is that they can move, from one place to another.

While it exist buildings in other games that can attack, most buildings are meant for defence, bonuses or management.

In the game world, buildings are inanimate objects but the units are supposed to be living breathing creatures. They are the ones who are often granted animations, both when it comes to standing still, walking, attacking or dying.

- Units can move around and buildings can't.
- To simulate life, add animations even when the units are being idle.



4.4.2a The humans in all their shining glory...

From left to right; Count, Sheriff, Avatar of Thor
Witch hunter, Wizard, Runic Paladin
Scout, Assassin, Knight
Footman, Crossbowman and Spearman.

4.4.2b The smelly counterpart.

From left to right; Lich, Wraith, Casket of the Dead
Banshee, Necromancer, Spirit caller
Ghast, Shade, abomination
Ghoul, Skeletal archer and Skeleton.

5.0 The player

Don't be a player hater.

The player character (PC) is first and foremost a tool in the game world, the player's "hand". What the player does through her character produces a response.

5.1 Playability

*Amateurs started Google and Apple.
Professionals built the Titanic.*

The key to a good strategy game is balance, and the unit's appearance should reflect their strength. A gigantic tank should not hold the power of a pea shooter. That is misleading.

The art shall also help distinguish the units from the background, and with appropriate placed team colours, separate your units from enemy units, even if they happen to belong to the same race.

The issue on how to make it playable is something the art direction should focus on.

The target group will determine how the art might be shaped.

A gritty, detailed look may not be a suitable game for children if you want to direct their attention to the points of interest.

Bright colours catch attention, and that's why team colours play a major part in real time strategy, where the gameplay is dynamic and constantly changing.

Just imagine an ant hill; your job is to keep track on your own ants. And one easy way is to colour your ants in your favourite colour.

Even if a unit is a master of disguise and camouflage, by making it too shrouded or completely invisible for the player is a bad idea (unless it is an enemy unit, then it is part of the tactics). The player controlling said unit might misplace and forget about her own unit if she can't see it herself.

But enemies with the invisibility ability may turn completely invisible for the player (or just hint their existence if the illusion is not complete).

They can be presented as a challenge, and raises the difficulty of the game.

The overall satisfaction will be great when the player managed to defeat such an enemy.

Since most strategy games deals in warfare, units should wield large sized weapons and armour, so they can still be visible from an out-zoomed perspective and still display their role.

- Powerful units should look impressive.
- Team colours must be visible.
- Weapons can be enlarged for visibility.

5.1.1 Colour blindness

I'm blind, not deaf!

Half the game consumerists are male. And 4-6% of the world population have some form of colour blindness.

My grandfather on my father's side can't identify red and green and he sees them all as different shade of brown.

I remember him repairing a red table for me. He returned it to me, painted in green. But in his vision it had the same shade of brown. So the paint, in his eyes, was a perfect match.

The colours red and green are already established in our modern culture as signals. Red means stop and green means go, negative versus positive.

So it feels natural that the good guys are highlighted as green and the bad guys as red. And life is green (grass) and damage red (blood).

Now imagine my grandfather playing such a game. How long will he be able to stay alive?

My grandfather cannot tell the difference between red and green, but he can still notice the difference between shades.

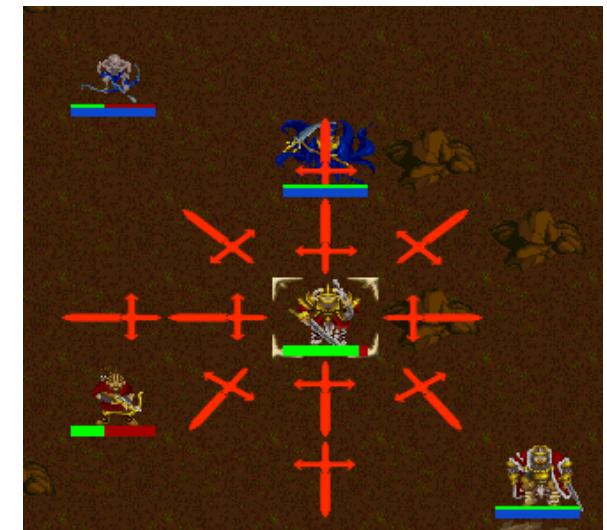
Bright colours in your Graphic Interface can be great to get the player's attention instead of massive chunks of text.

We have been trained to perceive the meaning of different colours. But what if they cannot be seen on a particular surface?

You will be surprised over that even big game companies can make mistakes with colours.

This is something that can be fixed in your art direction and should be an option in the graphic settings. Some monitors can be adjusted in their way of displaying colours.

Be careful when you have chosen a "gritty" style for your game. Too much of colours being bleached to near grey shades will risk disappearing altogether for persons with poorer vision. All that those need is a little shade change to be completely grey.



5.1.1a Normal colour vision seen in Domains.
The humans' team colour is red while the undead wear blue. The health bar is lime green where damaged health displays as red.

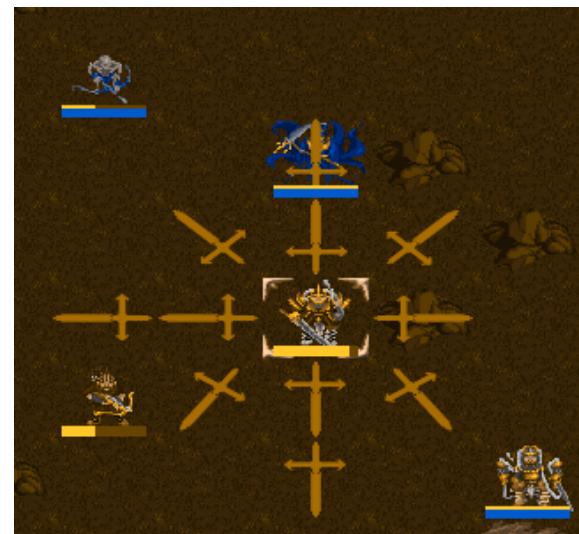
You can preview art (or any screenshot from your favourite game) in colour blind mode. Vischeck has a Photoshop plug-in and an online converter (<http://www.vischeck.com>).



5.1.1b Protanope, a type of red/green colour deficit. This is my grandfather's vision.

The following images on this page have been converted from the image 5.1.1a with the Vischeck plug-in.

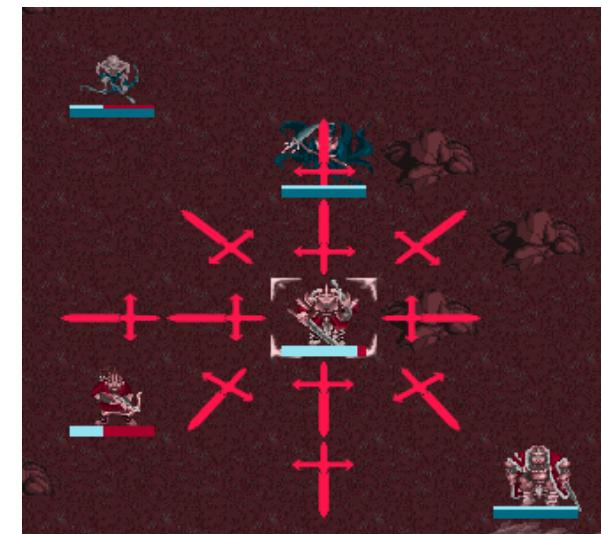
When colour can't tell the player what to do next, the shapes and symbols must take over that role. If you look at a traffic light, the stop-light will always be displayed at the top and the go-light at the bottom. This is an international standard.



5.1.1c Deuteranope, another type of red/green colour deficit and the most common. For a person with normal colour vision, the swords appear brighter and yellow than protanope.

Looking at pedestrian lights, some nations have a simplified walking man as a symbol for crossing the street.

As for Domains attack symbol, we have chosen a sword with an aggressive orange colour (5.1.1a). Since orange doesn't exist in any other of Domains graphic art, it has been solely used in the symbols.



5.1.1d Tritanope lacks the colours blue and yellow. Here the team colours blue and red can still be seen.

If we look at the colour-blindness examples above (5.1.1b, 5.1.1c and 5.1.1d) you might see that spotting the red human team colour can be difficult. The units sort of "merges" with the ground, instead of popping out, because everything looks brown in 5.1.1b and 5.1.1c.

Imagine a red human versus brown human team playing. How would the colour-blind players separate them?

I'm not saying that you should try to please everyone. But since the gamer stereotype is male and the male population is the one that risk colour-blindness the most, it would be foolish to ignore this if you want your game art to reach out to as many as possible.

- Research your target group.
- Assign colours and symbols together.
- Don't keep two colours close that look alike in colour-blindness.

5.2 Development

Before, Domains had no graphics. All there was were squares with names (5.2a) in a chess patterned field.



5.2a The very first art.

You could play the game, but it was not beautiful. It had the core but lacked a shell.

This is where graphics come in.

Domains choice of graphics and art style where these: Imperial Steampunk Vikings.

Sounds like an interesting mash-up. That would be the human team. And the undead would be Imperial Egyptian Vikings.

That art style sounded cool enough to sell the game. And the choice of graphics?

Since my speciality is 2D graphics, 2D isn't "hardware heavy", Domains were a zero budget project and nostalgia tend to sell; we took inspirations from the game Warcraft 2 (5.2b).

With the Warcraft 2's top down perspective, pixel art, and that the Warcraft franchise is very successful, we were hoping to appeal to those fans when they found something that were similar to their old favourites.

I played Warcraft 1, 2 and 3 a lot as a kid because it was so fun to build cities. And because of that, I looked for similar games.



5.2b Warcraft 2 (1995) is the sequel to Warcraft (1994) where the humans fought the orcs. The humans were dressed in blue while the orcs were red.

That's what remakes and game "clones" are aiming for. The nostalgic consumers want the same gameplay and feelings. They are willing to try it out in a new or different package.

They just want to relive their childhood memories. Just as I do.



5.2c The Wraith has Nefertiti's headdress, a famous Egyptian queen.

I will now show you how I work. The following steps are just guidelines and not rules set in stone. But I hope it can still give you a grasp on where to begin.

I did this process with both the units, buildings and the terrain. I began first with:

● The Task

You or another person has this game idea and now you're giving it a face! This is where you begin.

The example task is to create a unit, the Wraith, which is a powerful grim reaper.

He's clad in rags and has a big scythe. He is a unit that can walk very far and do a lot of damage. All units are to fit in a square of 64x64 pixels and the Wraith is no exception.

● The Idea

This is the unglamorous part, where the picture does not have to be pretty. It can even be a moodboard (5.2c, photos).

You're just taking a mental note, or getting inspired by something you saw.

● Concept Art (sketch)

Still a rough sketch (5.2c, middle drawing), but we're trying out our ideas.

Ideas like where his headdress details may be placed or how his scythe is decorated.



● The Stickman

Now we're diving in to our pixel-drawing software to draw ourselves a sprite.

We begin to sketch up a template to keep track on the proportions, then we can experiment with poses.

5.2d This is my base for every unit. From this, I can measure out short units and tall units.



5.2e Flat colouring helps telling limbs apart



5.2f Colour palette.



5.2g Epification!

● Flat colours

By “flat” it means “boring”. We mark out where his body parts are (5.2e).

Obviously we’re going to replace those gaudy colours with his real palette.

● Render

This is where you add the assigned colours with your palette (5.2f).

His team colour is blue, so his whole robe and headdress became blue.

● Changes

The wraith didn’t look awesome enough (5.2f), so a flowing cloak and jewellery were added (5.2g).



5.2h On the far left it is hard to distinguish the Wraith from the grass. In the middle we added a black outline (as an example) and suddenly he pops out of the background. In the right picture we toned the thick outline down, where it is partly black, partly other colour. We also added a shadow to give more depth.

All of Domains’ pixel graphics went through this step. But some steps were actually forgotten or unknown at the time. Such a vital step is feedback.

I didn’t test the unit inside the game, or ask anyone else how they saw the unit.

When you work with a project, you gain unique inside knowledge that skews your vision. You see one thing, but the other (who doesn’t have your unique insight) sees another thing.

If you look at the pictures at (5.2h), I didn’t give him an outline on the far left, so the Wraith merges with the ground.

To make him more visible (or “pop out” from the background) a black outline was added around his character and under him a large shadow, since the wraith can float.

■ There are several steps:

Task, Idea, Concept Art, Stickman, Flat colours, Render, Changes.

■ Give your sprite an outline and a shadow so it stands out from the terrain.

5.2.1 Unit Development



5.2.1a

As described in chapter 5.2, changes may be necessary if the result isn't satisfactory enough. It may go as far as kill your darling art in general. It won't matter how proud you are over it.



5.2.1b

The difficulty with Domains' graphics was that it was heavily influenced by Warcraft 2, which was a game that was made for much lower resolutions. Such resolution isn't used today by modern computers.



5.2.1c

Everything risks of appearing too tiny on a large screen and that can compromise readability.



5.2.1d

But a tiny size is excellent for mobile phone platforms, which is a constantly growing market.



5.2.1e

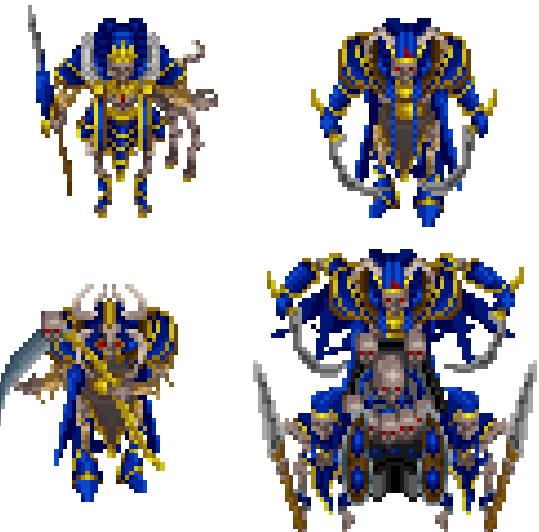
Some units went through several changes. Mostly because I was trying to establish a look before I added the presentation. It is much easier to change something existing instead of reinventing the wheel all over again.

Repeating the previous steps (and learning from our mistakes) the first was to solidify an idea, the second step was making improvements with the feedback. Let's do some art analyses on Domains armies.

The ghoul (5.2.1a) is the cannon fodder and the cheapest unit of the Undead side. His human counterpart is the footman.

He's a low status undead and has a hunched, ape-like posture like a primitive undead and is sewn up of mismatched human skin.

The skeletons (5.2.1b and 5.2.1c) are the undead that exist in masses. They're also expendable soldiers. They are dressed in rags just to reflect their low status. The skeleton's skull and body model was reused in the models seen in (5.2.1f)



5.2.1f The skeleton body was reused in different shells.

*Top row: Necromancer (left) and Lich (right).
Bottom row: Spirit caller (left) and Casket of the Dead (right).*

The Ghast began with a retracting pose (5.2.1d) which was an attempt to make him look ready to pounce. But it seemed more passive than menacing, so the new Ghast had his arms more spread out (5.2.1e).

The first version of the Wraith didn't look epic enough. He appeared more weak and feeble with his compact posture (5.2.1g).



5.2.1g

And the lack of details (added in 5.2.1h) didn't indicate enough that he was a high ranking unit.



5.2.1h

So his new design claimed more space from the 64x64 pixel-sized canvas square, filling it out (5.2.1i).



5.2.1i

Notice that the scythe hasn't changed pose (5.2.1j). With the extra cape, it gave the Wraith the illusion of being more dynamic. That is the effect of action lines.



5.2.1j

The Necromancer's horse hind legs would normally be hidden behind his torso when seen from a top down perspective (5.2.1k).



5.2.1k

And thus he would not look like a skeleton centaur but as a skeleton with skinny legs.



5.2.1l

The new version shifted his horse back (5.2.1l) from behind so his hind legs would be visible.



5.2.1m

But since the unit itself was so tiny, not many could see the horse half details (5.2.1m) and it just appeared cluttered (5.2.1n).



5.2.1n

To avoid it in the future, zoom out the sprite until it is very tiny and see if you can distinguish limbs, face and clothing.

I've followed a pattern. Low cost units were allowed to look similar, just to show how non-valuable and non-unique they are.



5.2.1o

In a military culture, the common soldier is not allowed to stand out. The human soldiers in the lower ranks shared the same tunic uniform.



5.2.1p

The Footman (5.2.1o) is wearing the standard tunic and a belt and helmet with steampunk goggles.



5.2.1q

The Spearman (5.2.1p) began with dreadlocks, but that changed to a helm (5.2.1q).



5.2.1r

The Crossbowman (5.2.1r) get to have the dreadlocks hairdo instead of a heavy helmet for increased vision.



5.2.1s

The Scout (5.2.1s) is well protected under his giant shield. Because of that, most of his clothing is obscured.



5.2.1t Human soldier uniform.

All these soldiers are dressed with similar clothing based on this drawing (5.2.1t).

But their equipped weapon gives them a complete different silhouette and thus they're not identical.



The Avatar of Thor was supposed to be one of the largest units and be a rare sight. Or at least appear like it. A huge body with a small head is one way to display it. And really beefy arms.

But I had two problems, he's supposed to fit in the 64x64 square and still look like the biggest human of them all, even a giant.

And with such a large body on a tiny square limits the number of action poses. The first pose (5.2.1u) weren't dynamic enough.

I experimented with changing his skin colour to something paler, like a God or a Greek statue.



5.2.1y **5.2.1z**

I also tried to add horns to his head (5.2.1y), just to imply that he isn't human.

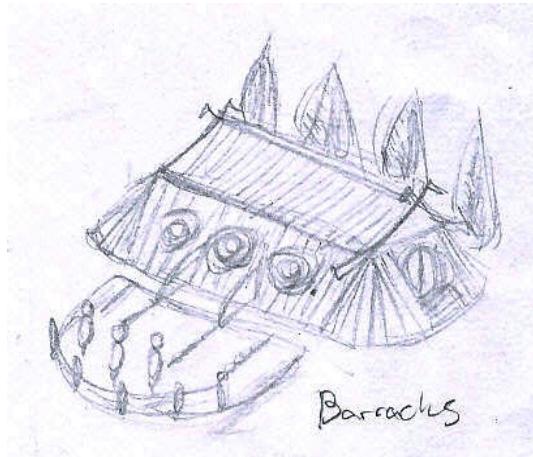
But his horns weren't visible enough, so I changed it into his red team colour (5.2.1z).

But it still wasn't visible enough, so I had to scrap that idea all together. But I kept his skin light (5.2.1å), and that made him stand out from the rest of the units.



5.2.1å

- Zoom out your tiny pictures to see if you can still read the features.
- Reuse art if you can modify it into something new.
- Exaggerate proportions instead of aiming for realism (unless the art style requires it). Big eyes are more visible than tiny eyes.

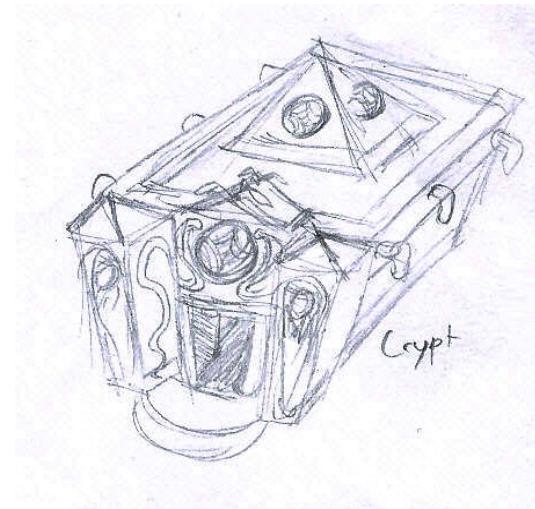


5.2.2a Barracks concept art.

5.2.2 Prop development

During the middle of the development, we had to stop and playtest. Of course, all the graphics at the time weren't completed yet or was missing entirely. While I was working with the unit sprites, we had no sprites for the buildings.

So in order to test the game and still be able to read it, temporary pictures were created (5.2.2d & 5.2.2e). They were of the same size as the planned ones (5.2.2f & 5.2.2g), but were less detailed. Their sole purpose was being placeholder graphics in our Alpha.



5.2.2b Crypt concept art.



5.2.2c Graveyard concept art.



5.2.2d L t. R: Alpha barricade, barracks, farm and outpost.



5.2.2e L t. R: Alpha bone wall, crypt, graveyard and undead orchard.

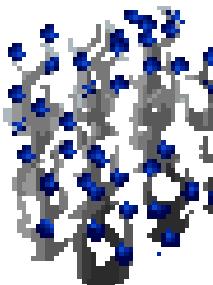


5.2.2f L t. R: Beta barricade, barracks, farm and outpost.

The barracks and farmhouse had the same house design. In order to avoid confusion, the barracks' house was mirrored.



5.2.2g L t. R: Beta bone wall, crypt, graveyard and undead orchard.



5.2.2h Too obscure.



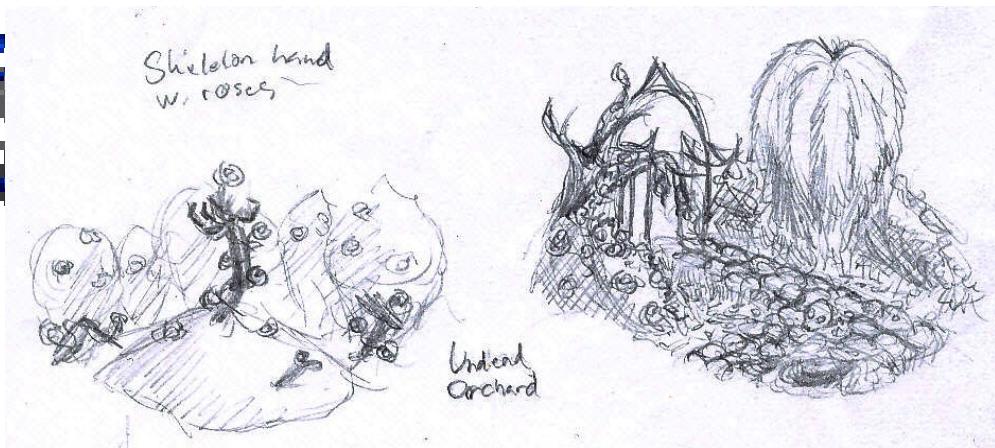
5.2.2i Messy.



5.2.2j Where are the team colours?



5.2.2k Beta.



5.2.2l Concept art of the Undead Orchard. (Read: "Skeleton hand w. roses.").

Trivia: All of the buildings' concept art was drawn during one single bus drive. Never underestimate the power of a sketchbook close at hand.

What Alpha means is that you have your first working version for testing, and Beta is the improved prototype.

As mentioned in chapter 4.4, the buildings have to look their part.

So armies with obscure themes (aliens, monsters and undead) have to use an image language our culture can understand.

The Undead Orchard (5.2.2h to 5.2.2k) was in the description an overgrown dead forest claimed by the undead.

But its function was the same as the human Outpost (5.2.2c, far right).

I knew an orchard was something of a kept garden, so I've experimented with a rose garden where the roses would carry the team colours (5.2.2i).

But it did not work because it didn't feel like a proper "lookout". So a hill and a dead tree was added (5.2.2i). But the result was still too cluttered. There was no focus point.

My next idea was dark thorny bushes that were hiding tiny evil-looking eyes looking out from the darkness (5.2.2j). That would both feel watchful and eerie.

But the silhouette shape was more of a fat blob than a spiky tower. So it had to be changed too.

The final for the Beta (5.2.2k) is the last change I had time for before the final deadline. At this time I've managed to get a tower shape, but a terrible last minute decision resulted in some thorny vines surrounding the prop which ended cluttered.

- Alpha is the first version for testing.
- Beta is the prototype for playing.
- Before drawing, decide for a shape that should dominate each prop.
- Create placeholders for the programmers to include in the game.

5.2.3 Terrain development

Know your surroundings.

In the olden days, warlords used to pick out battlefields that were optimal for their own units. It could be based on accessibility for his different units, amount of cover or ambush opportunities.

The early versions of Domains had only one type of level. The obstacles were randomly generated on the battlefield, and thus required a different gaming strategy for each session.

A tile is a picture and functions as a building block (like Lego). You place tiles next to each other and thus construct your game world. The challenge lies in to not make the terrain look chess patterned or repetitive.

The ground tiles in Domains had the same size as the unit sprites, 64 pixels in width and height. That tile turned into in an evolution of different grass types. I placed units on the ground to see if they stood out enough.

I placed them together in rows and columns so they together formed a larger image.



5.2.3a 5.2.3b 5.2.3c 5.2.3d

This was to see if we could eliminate the grid look. Well-made tiles can make it look like the pixel world was not built on a checker board but instead is a living, more randomized world.

Why the grass went from bright green (5.2.3a) to dark brown (5.2.3d) is a game design decision. I'll explain why.

When we playtested Domains, the unit health bars (that are lime green) were not so visible on the grass.

Since 5.2.3a was a placeholder I didn't think too much of it. But when I made a proper grass tile (5.2.3b), the problem still persisted.

I lightened the grass up a notch (5.2.3c) but it was still troublesome to perceive details (5.2.3e left picture).

If you know your colours, green is a mix of blue and yellow. The units' palettes had both of these colours (the undead having it the most).

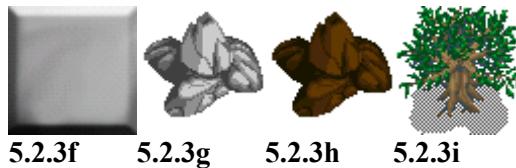


5.2.3e *The Lich unit is demonstrating the visibility between the two different grass types. The brown colour proved to be more superior.*

So they sort of disappeared in the grass. You get brown by mixing blue, yellow and red (or with any colour imagined, which I as a child discovered with dismay when attempting to paint rainbows). Brown with a tint of green appeared the most neutral and still rich in colour.

Any kind of green on green background, no matter the shade, will be hard to read. And to be able to read everyone's green health bar is vital for Domains' playability.

I had used very little brown in my units colour palettes. I concluded that brown is a colour neutral enough to suit for recoloring the grass tiles (5.2.3e right picture).



Fighting on an endless dirt field sounds to me like boring gameplay. By adding additional prop the player can use her surroundings in her strategy. They could offer cover for her units and be an obstacle for enemies.

The terrain props were generated randomly on the map so their positions could vary.

During the Alpha, it was generated as a square rock (5.2.3f), at the standard set size of 64x64 pixels. This, of course, was also a place holder.

The first real version was a pile of rocks (5.2.3g), but against the first version of the green grass (5.2.3a), it popped out too much. Was it a bad thing? I think so, since the rocks were supposed to be a part of the background, while the units should command focus.

When I changed the grass to brown (5.2.3d), the rocks stood out even more. So I changed the rock colours into the same brown (5.2.3h) as the grass.

To add some more visual variation on the field, I did a tree (5.2.3i). But the tree's crown looked too square. We still want to avoid any checker patterns. And the tree shadow didn't follow the tree crown itself.



5.2.3j

Another function of the terrain was that the player could build their own props on certain areas. And that was marked with a “pre-made” surface, which was displayed as flattened out dirt (5.2.3j). This showed where the player could place out his units and buildings.

When you build a house in real life, you have to prepare the ground; flatten it out and make room for constructing a skeleton base. The different type of dirt laid above the ground was supposed to reflect that.

An alternative to the flattened dirt was a cobbled road, a pavement that could be adapted to visually fit the humans and undead specifically. I want to include that in the next art update.

- Tiles are the names of pictures that are building blocks for levels and worlds.
- Well-made tiles don't show a grid pattern.
- The terrain is to be background and should not steal attention. Choose discreet colours.
- Create placeholders for game testing while you finish the real art.
- Your canvas is a square, but it's a bad idea to fill to the edges if your motif is supposed to be large, round or organic.



5.3a Base for walk animations.

5.3 Animation

Computer games have an advantage compared to traditional table-top games. And that is the illusion of life, or animation.

Domains planned to have animations, and the movement helps create the illusion of life. When something is moving on its own, it will feel less of an object and more of a creature.

The units had three important actions: Walking, attacking and dying.



5.3b Base for attack animations.

These three actions confirm events in the gameplay. They were drawn in almost all direction; North, south, southeast, east and northeast.

The other 3 directions; northwest, west, and southwest could be mirrored by the engine and didn't need redrawing. That saved time.

The animations would contain 4 frames per action, and there were 3 actions and one still; Walk, Attack, Death. The single still, Idle, could consist of one frame, but the ideal was that it would be animated too.



5.3c Base for death animations.

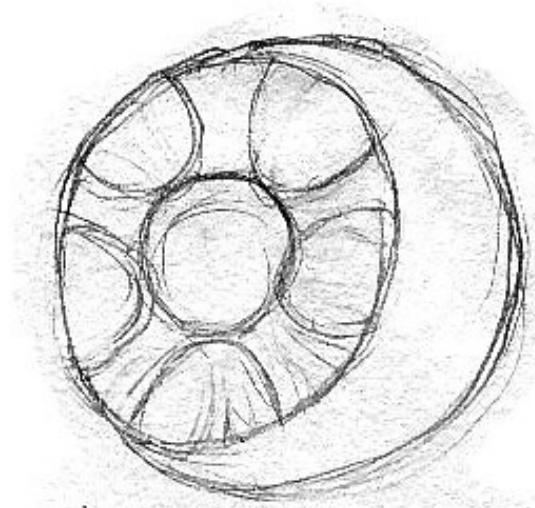
Since 2D animations mostly lack a physics engine that can simulate gravity and mass, the animator must be schooled in the basic animation principles (such as squash and stretch) in order to provide believable movements.

- Animations look great in a game.
- You can mirror frames to create opposite movement directions.
- Too vivid movements can distract the player from important events.

6.0 Sketchbook

Samples of the concept art created during Domains' development.

They both consist of pencil sketches and digital paintings.



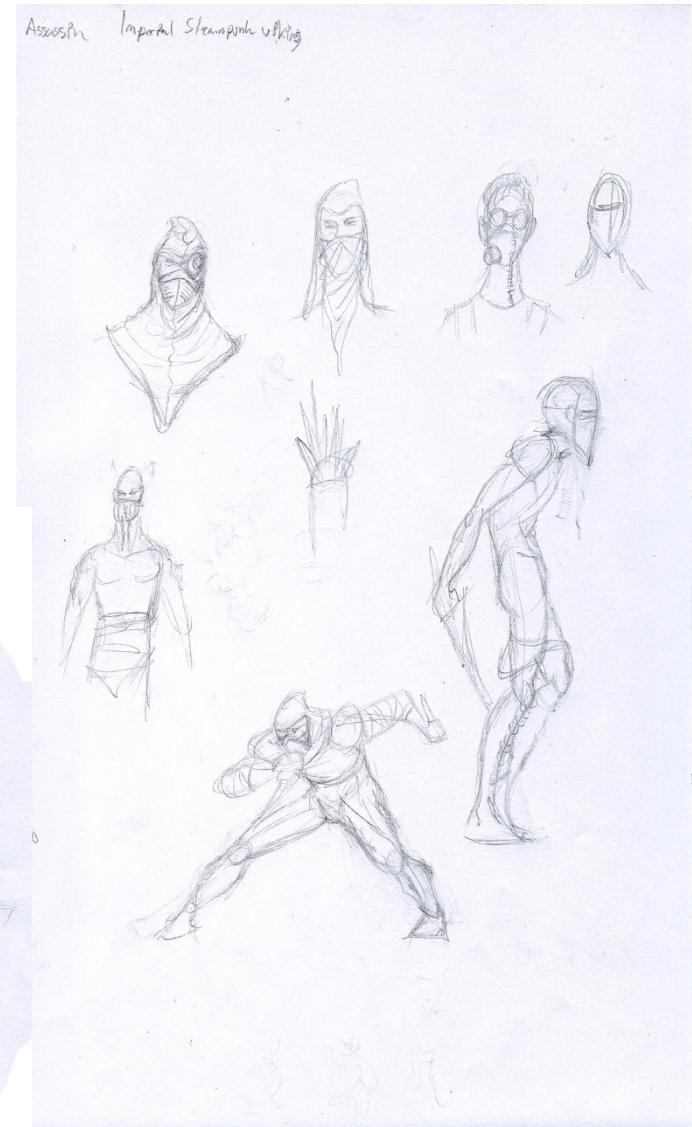
"Dawn" symbol



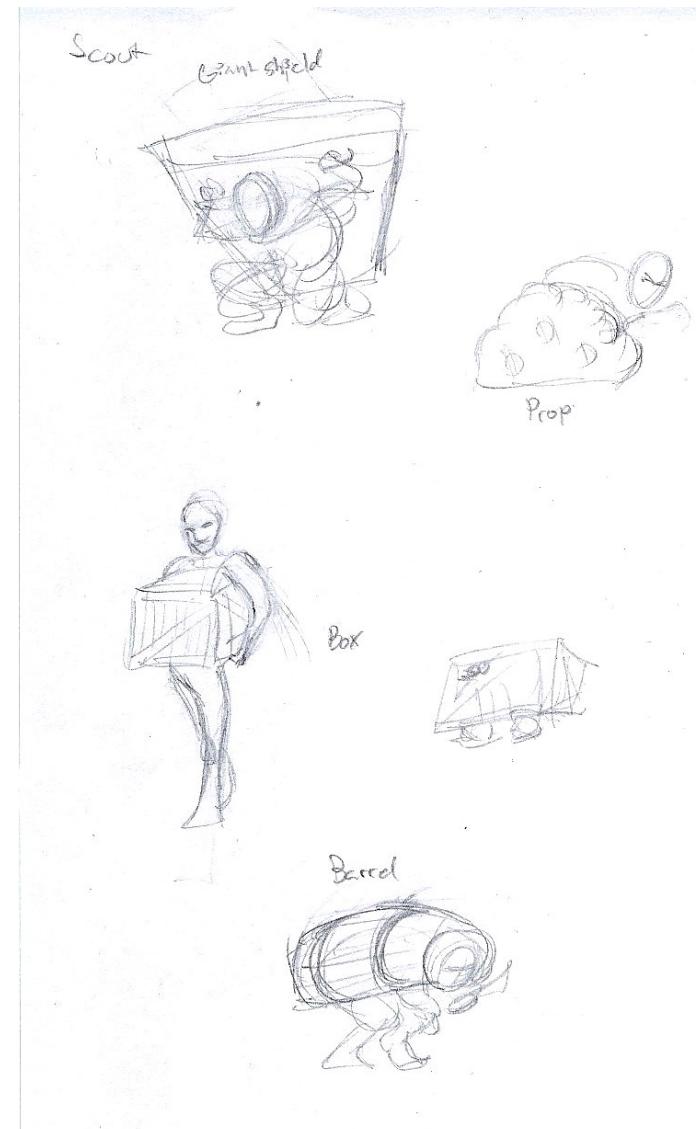
Witch hunter



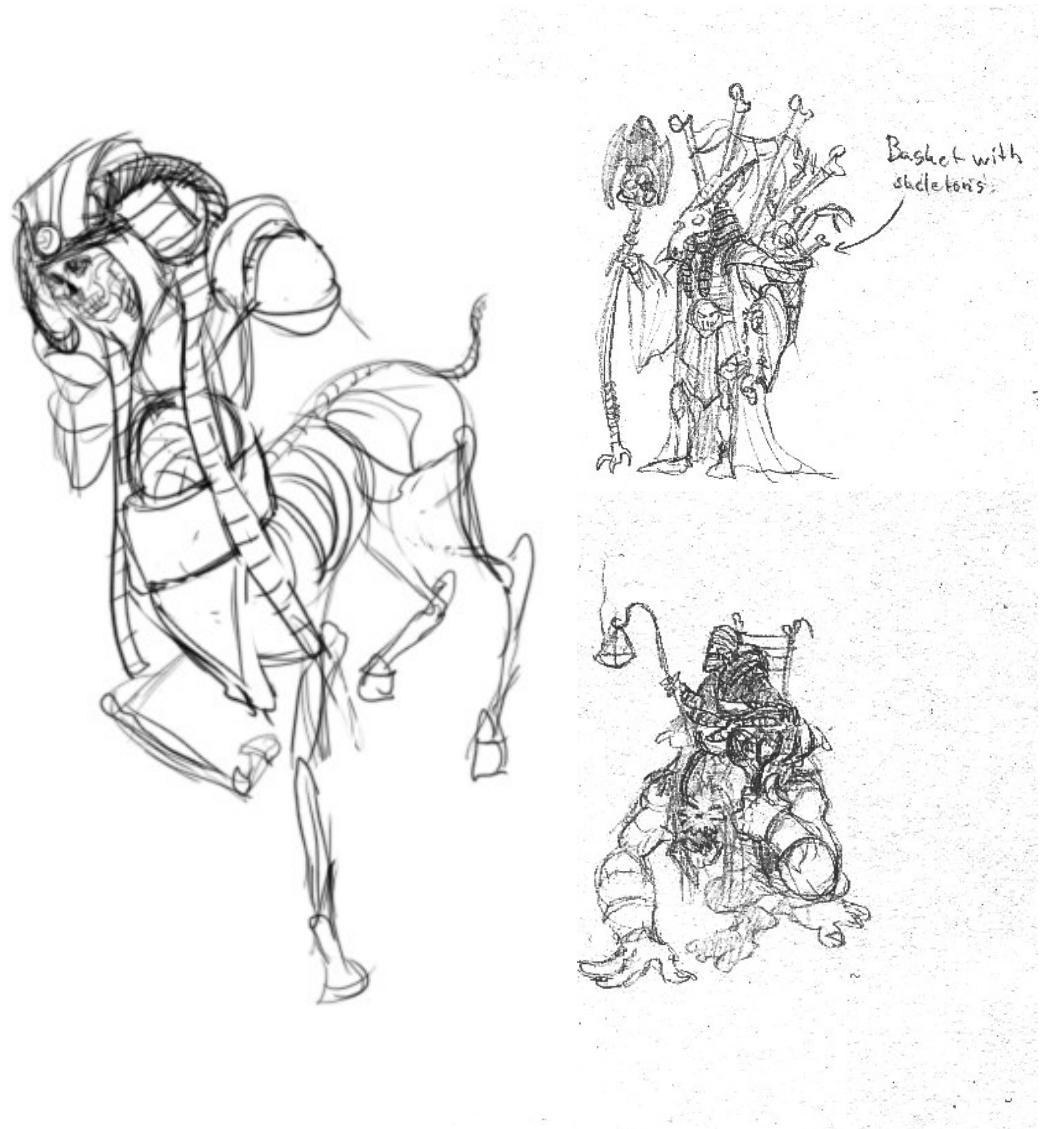
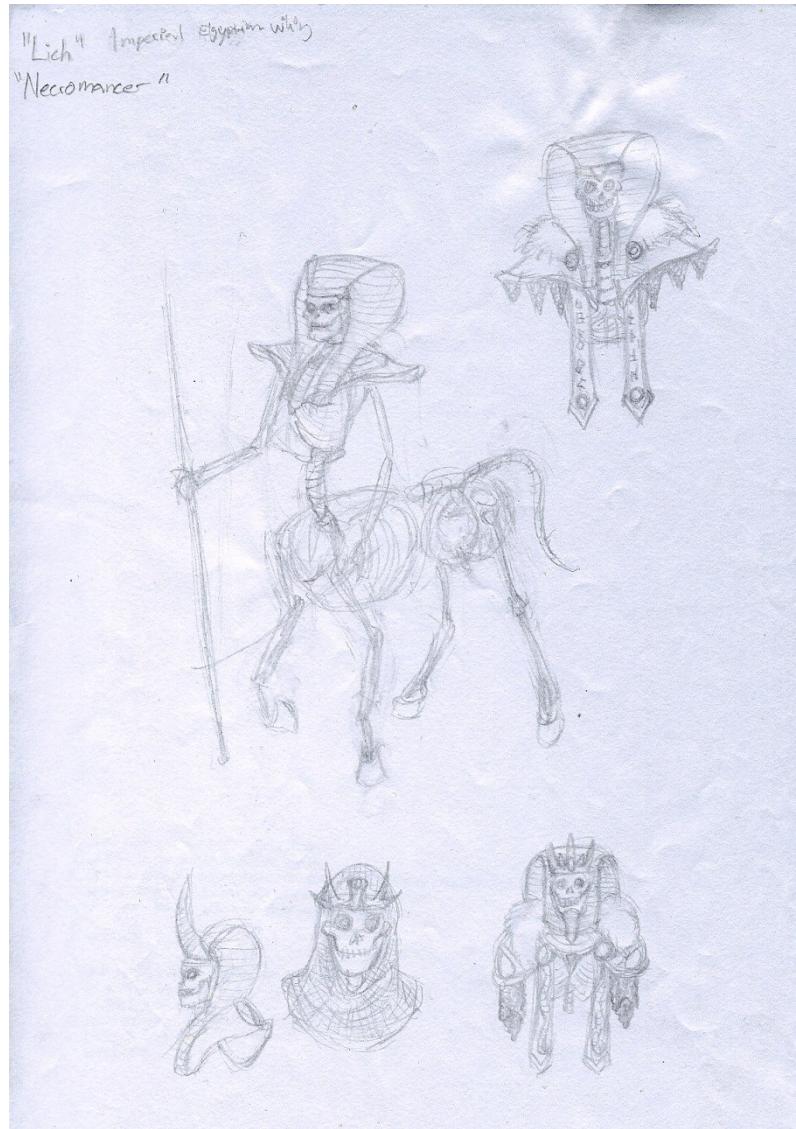
The Strategy Game Art Guide



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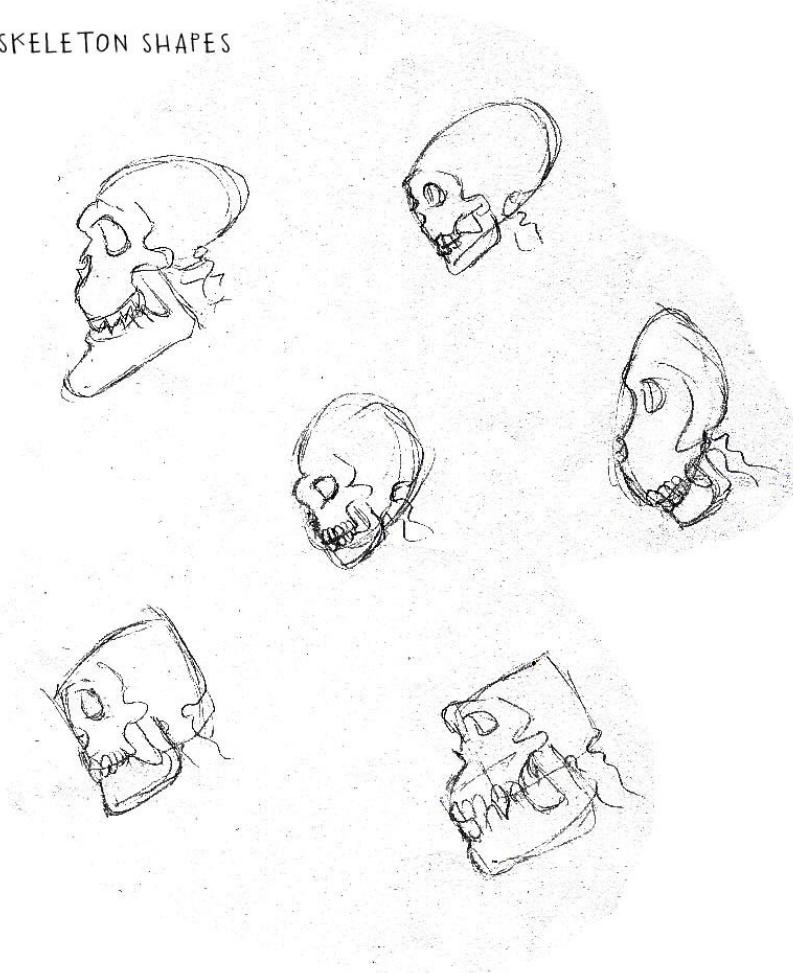






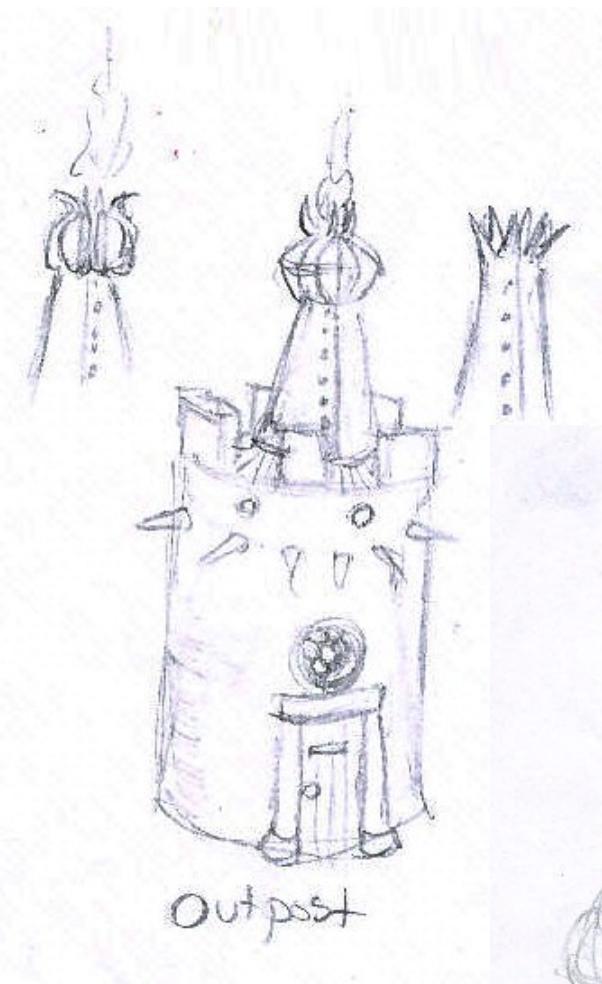
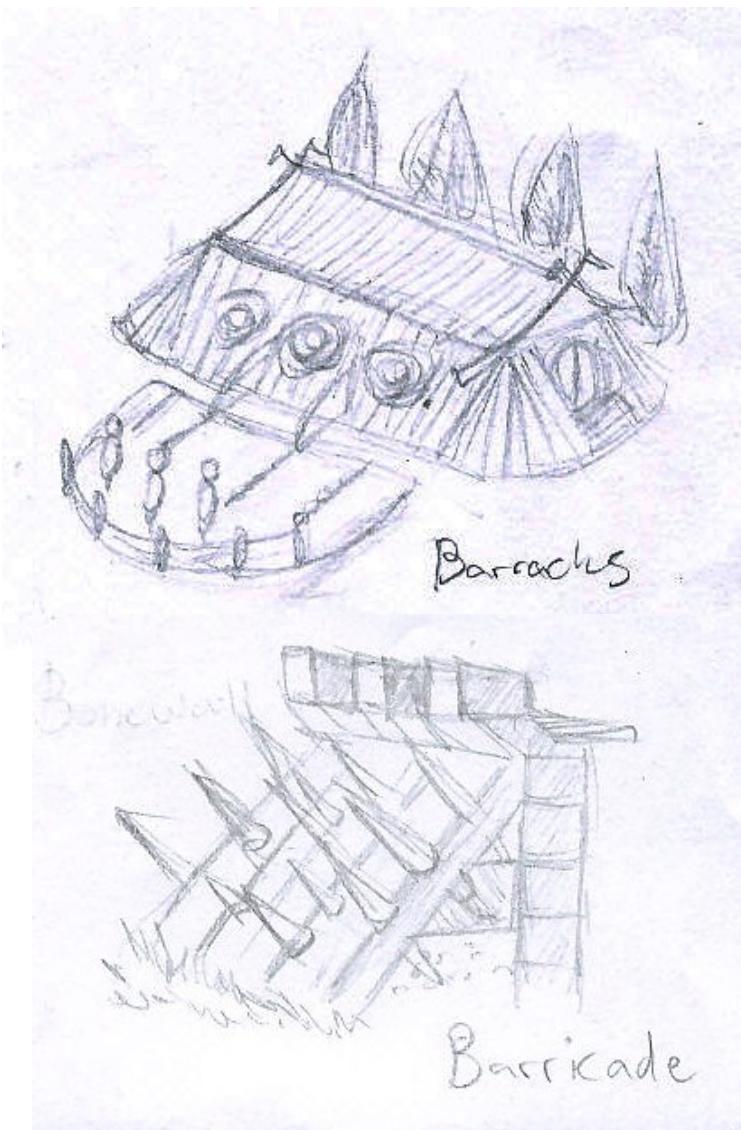
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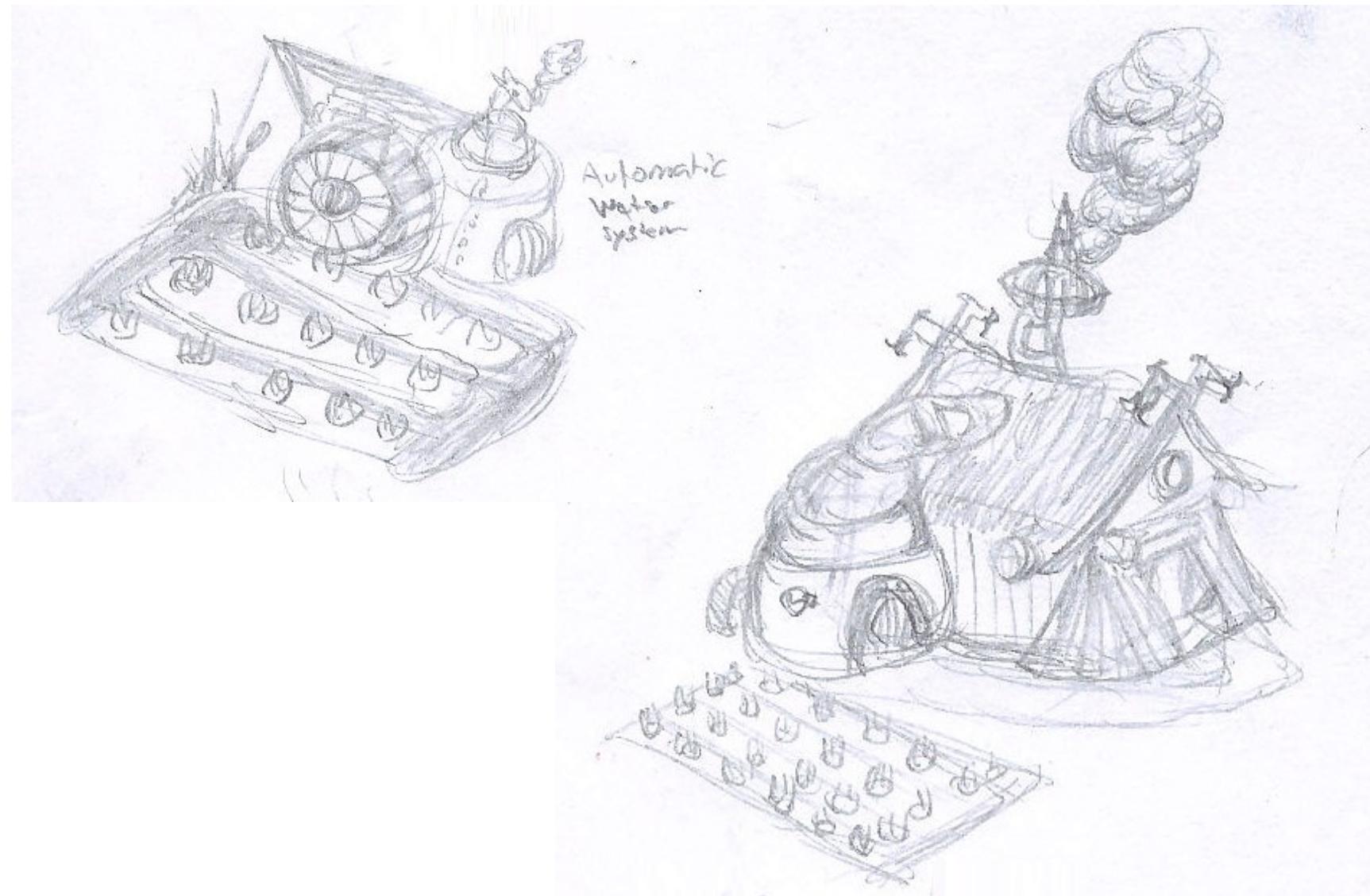
SKELETON SHAPES

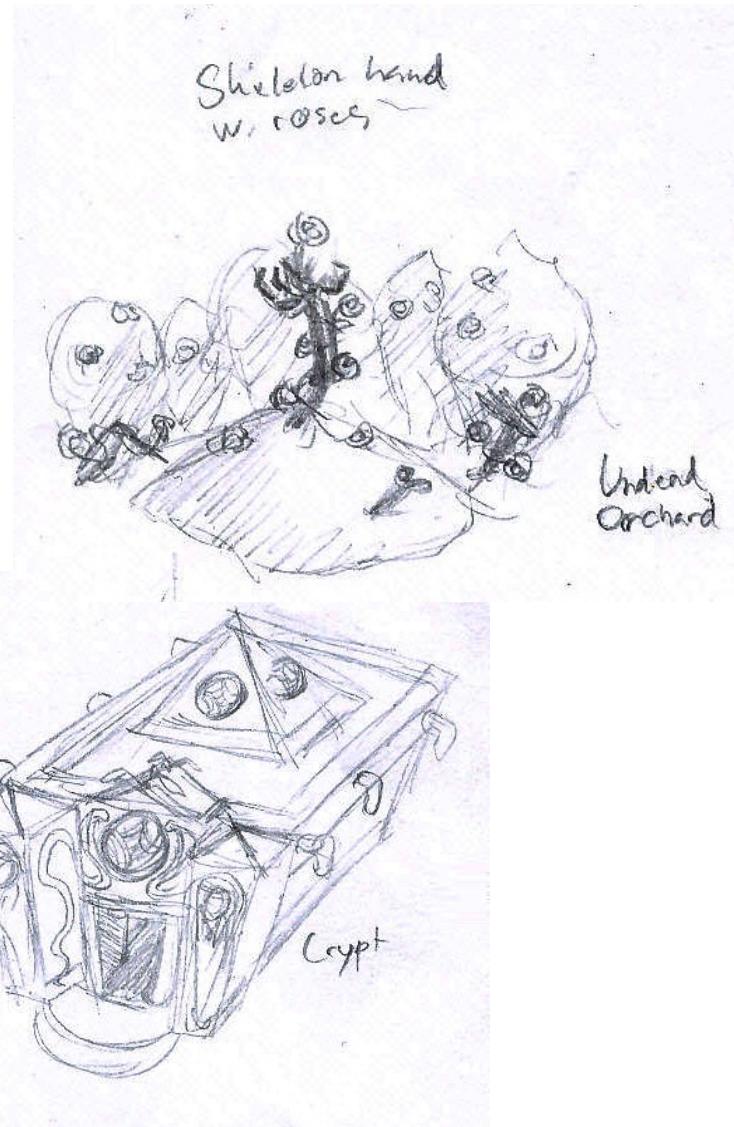


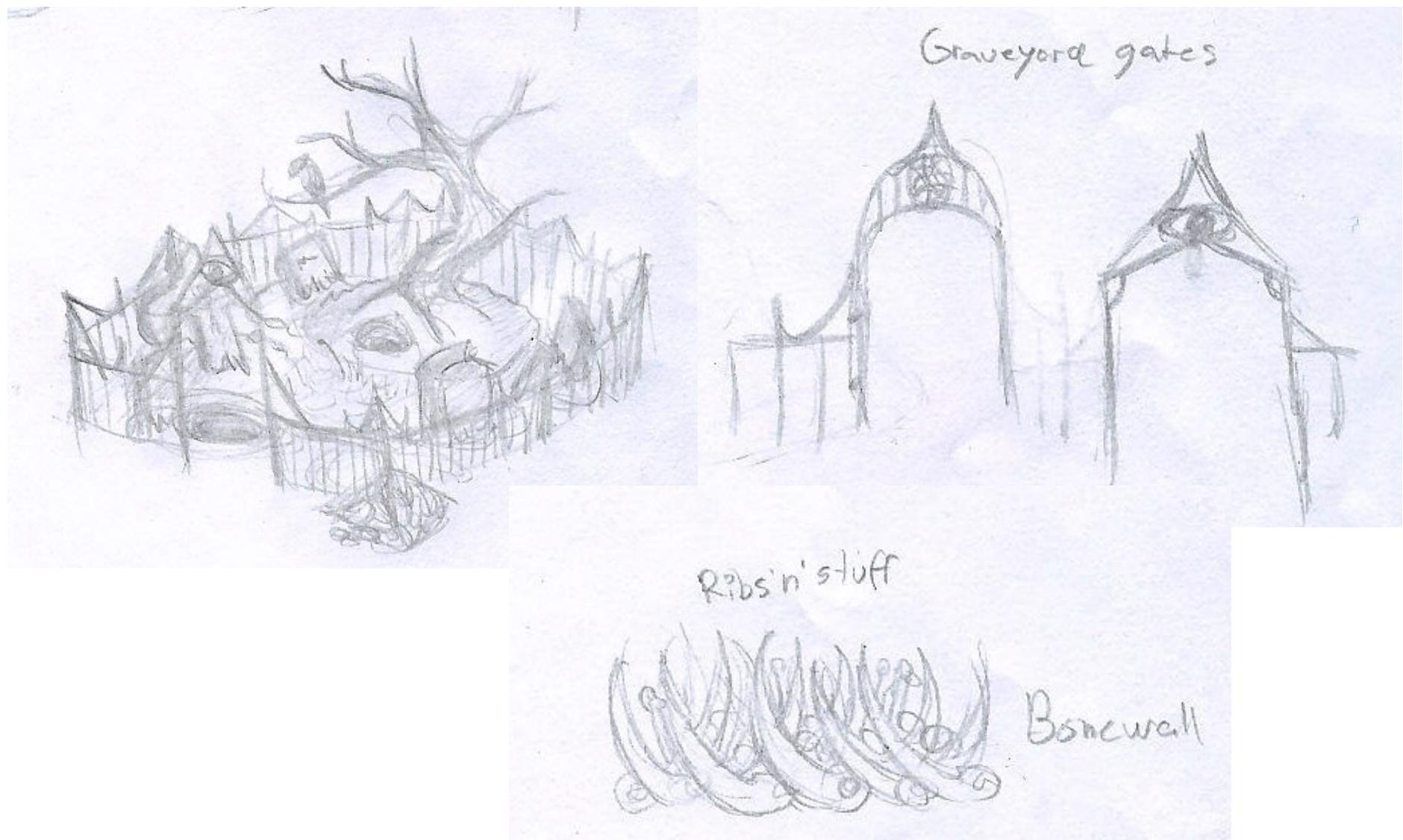
Dread knight
Un-knights
Heavy Rotten
Heavy Dead
Bone Brute





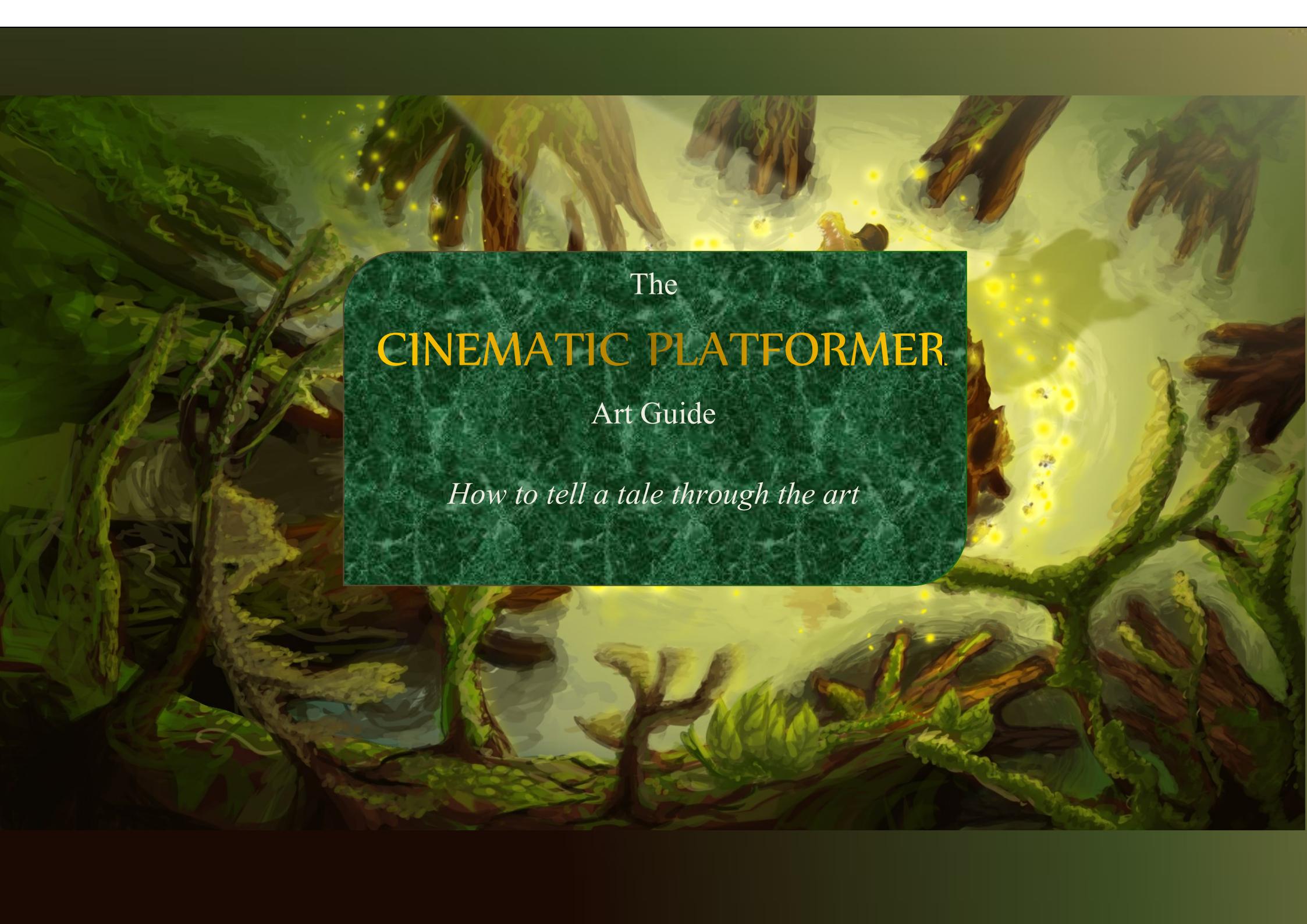












The
CINEMATIC PLATFORMER
Art Guide

How to tell a tale through the art

Table of Content	2	4.0 The World	7
1.0 Introduction	3	4.1 Art direction	7
1.1 Playing a cinematic	3	4.2 Places	8
1.2 The example	3	4.3 Inhabitants	9
4.4 Props		4.4 Props	10
2.0 The genre	4	5.0 The player	11
2.1 Key features	4	5.1 Playability	11
3.0 Creativity	5	5.2 Character Design	12
3.1 Drawing	6	5.2.1 Building the character	12
		5.2.2 Colour palette	13
		5.3 Animation	14
		6.0 Sketchbook	17

1.0 Introduction

The art in the game is the very first thing the player sees. The rest, such as rules and mechanics, are hidden in the “backstage”.

The art provides vital information on where and how the player should act according to her surroundings. The art can guide, deceive and touch.



1.1a *Oddworld: Abe's Oddysee* (1997).

1.1 Playing a cinematic

Have you ever played a cinematic platformer, in 2D graphics? You open up and expect a Super Mario game, but what greets you instead is a real human being.

He's not as agile and fast running, but he's crafty, can go almost anywhere and interact with anything he finds.



1.1b *Flashback: The quest for Identity* (1992).

1.2 The example

In this book we will be drawing examples from a real game project, “Rufus the alchemist”, which is a 2D platformer game. We will go through how we came to the main character Rufus' look, from idea to final appearance.

This will not be an art tutorial on how to draw, but rather present theories that can be applied to any skill level with any artist.



1.1c *Another World* (1991).

■ Information squares like these will summarize each chapter.

2.0 The genre

To see the future one must look at the past.

The genre had its golden age during the 1990s and it's a sub-genre of platform games. The platform game's name is literal, since the first gameplay was a character jumping from one platform to another in early level design.

The cinematic platformer genre focus on fluid, realistic animations, and this was a time before 3D came into the industry and became the number on tool for realism in games.

The “cinematic” in the genre name came from the rotoscoped middle sequences which worked well together with the ingame animations without breaking the immersion or the mood.

You can compare with today's game commercials for high budget games. Some brag about the things displayed in the trailer are actually ingame graphics and not a cinematic, pre-rendered in 3D.

- The genre was most popular during the 1990s.
- It's a sub-genre of the platform games.

2.1 Key features

Cinematic platformers are known to aim for a more realistic approach, both in game mechanics and visual style.

- So instead of extremely deformed (chibi-style) characters, human characters have realistic proportions.
- Often, rotoscoping (tracing live action moves) is used for character animation.
- Movements take their time to decelerate and accelerate, even when turning. Never instant.
- Characters are often normally agile like the average human being, meaning they are not able to jump very high and no one can change direction mid-air.

- In addition to weak jumps, advanced climbing feats can be performed. Check out the sport parkour or free running for inspiration.
- They tend to have weak characters, so long falls and single shots from guns can instantly kill. Just like real life.
- In combat, both enemies and players can use punches, kicks and weapons.
- Collecting items will displayed by an animation of picking it up.
- Almost no graphic user interface (GUI) is visible.
- Gameplay is often linear, mostly because it can be a lot of work adding unique animations.

- Cinematic platformers are known for realistic movements and regular weak humans as protagonists.
- They are heavily animated.
- They have almost no GUI visible.

3.0 Creativity

Crafting something real from your imagination is a random process happening during an unknown time.

You'll never know exactly what the end product will look like, even if you have a plan at the start. Sometimes when you have one or many assignments ahead of you, you might feel overwhelmed.

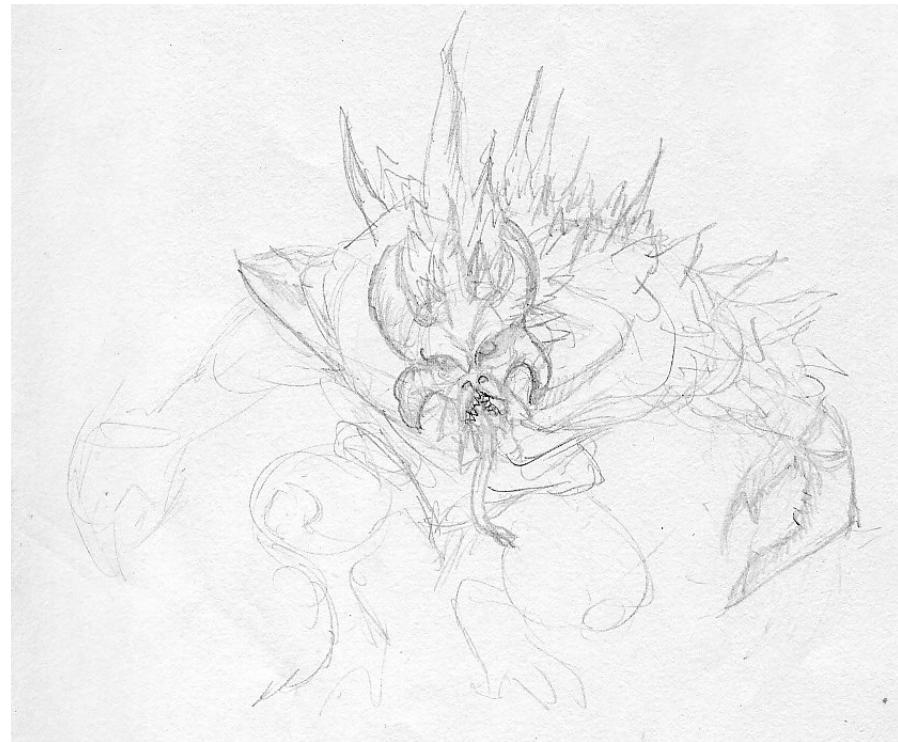
So where do you exactly start? You have a deadline to complete and you simply can't order inspiration to come to you.

The first thing is to forget the pressure. That will only limit you. Forget norms and rules. That will only narrow your visions.

Many people usually turn to other media for inspirations, like books, movies and games.

But that quest for inspiration can easily turn into a distraction and suddenly you've lost precious time.

I would recommend that you should focus on your own crafting than turn to others results.



3.0a This infernal beast has nothing to do with Rufus the Alchemist. The drawing isn't even finished. The artist drew this in order to "loosen up".

■ Search inspirations from things you like and analyse why you like it.

■ Focus on your own creativity and pursue originality.

■ Redesign existing concepts, do fan works or something original.

3.1 Drawing

Sit down with paper and pencil (or computer tablet if you prefer) and sketch whatever you feel like.

You might feel happy, sad, angry or horny at the moment. Let that out on the paper! It doesn't have to be relative to the project at all. The point of this is that you must start create something!

Draw anything that lets you enter a "flow". The flow is the state of mind where everything is just right and you are at the top of productivity.

This is a moment of reflection, and an exercise of learning to love the art. Because you're about to do it even when you feel tired, stressed, sick or half dead.

If you still remain as a "numbskull", devoid of inspiration, gather a moodboard rather than watch a cool movie (you can still use the stills from the movie).

A moodboard's only purpose is to inspire the viewer. Compare to other media, it cannot distract you with its awesomeness and interesting plot and wicked lyrics.

You're not supposed to think and process information, you're supposed to feel and try out new things.

Remember that you will always be influenced by things you see, hear and experience. So your drawings will be a mixture of new, unique creations and everything you associate with "cool".

Things that are innovating are actually a mixture upon mixture of the good stuff.

- Doodle at random a little bit, before you get to work.
- Always carry a sketchbook.
- Create a moodboard, if you wish to stick to one style or one feeling.



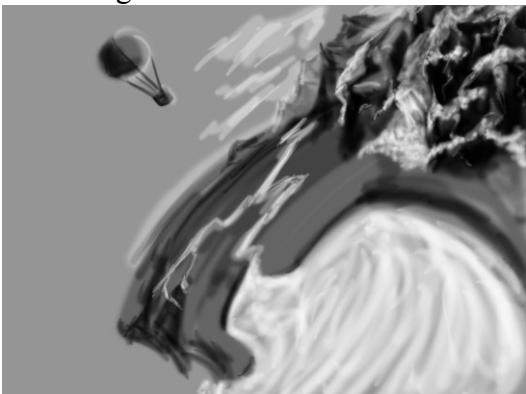
3.1a If fan art gets your drawing going, like this Protoss from Starcraft 2, don't let copyright infringement stop you! Just remember to credit the original makers. Thank you, Blizzard Entertainment.

4.0 The World

To create a grain of sand you must first create the universe.

There is no limit on how the world can look like. You are its first visitor and it is you who tells everyone what it's like. That is your job.

Without the world, our character won't exist. The world shapes its inhabitants; you won't find a fish in the desert unless the fish has legs and breathe air.



4.0a Sketch some landscape thumbnails. Thumbnails mean “miniature pictures”.

■ This is where you dress your gameplay in the clothing of an imaginary world.

4.1 Art direction

Beauty is in the eye of the beholder

The art direction is the thing that decides the look and feel of the whole world. The very first sketches don't have to be related to the chosen art direction at all.

The sketches are supposed to flesh out and share ideas. When the ideas have turned into established facts, that is when they get assimilated by the art direction.

With the help of art direction, they are added into the same universe, despite coming from many different origins (and minds).

The art direction is a vital output of information for the player and game development. Choosing the art direction will affect the quality of the work.

It determines the speed of the development (which is dependent of the artist current skill).

It also tells the player what she can see, so she can make a decision on what to do next. Bad art direction may blind the player.

Real life contains vast information, so much that the brain has to filter a lot and tell us what's relevant to our interests or not.

Your game shouldn't be that overwhelming, unless you really want to confuse the player.

So the art direction needs to be as clear and user friendly as possible, depending on what the target group is.

- The art is the first way you catch the players, so it must be able to sell your game.
- Simple art is easy to produce. “Simple” is also a very objective term. Know your limits or learn.
- Know your target group.

4.2 Places

See the world...

So how is a world born? Some may begin in creating a universe, and then create its inhabitants. The desert could mean that all life have to adapt to its harsh conditions.

You can also look at our own history. I have divided it into several parts:

- Hunters & gatherers: Back when we were cavemen.
- Agriculture: Mankind began to farm.
- Renaissance: Fine art and alchemy.
- The enlightenment: Everyone had access to books.
- Industrialization: Factories and steam machines
- Space age: Man began the race to the moon.
- Information Technology: Computers and modern science.
-

Each of these periods took a great leap in technology. And technology has shaped the environment we live in.

It has changed wilderness into check patterned farmlands or exploited wastelands.

Intelligent creatures tend to shape their environment to suit their own needs. And I expect any reasonable alien civilization to blow up a few mountains if it blocks a great view.

But still, if a fire planet would be awesome, don't be afraid to include one.

Another interesting aspect to take note of is to see where in the world these historical periods took place. Near the equator or up in the northern parts?

How does the geography look like? Deserts, oases, jungles or snowy plains?

We will be using a game concept as example. Our place is a lush forest, European style, where the animals are still feared and where the wilderness is still wild and respected.

It is a dangerous place for a stranger. Slippery rock, sink holes, hidden traps and secret passages are only one of many things that hide under the trees.

- Try to make your design choices logical, but don't forget the rule of cool.
- Look at our own world and history to gain inspiration.
- Choose some familiar elements when you create your world, so the player can use her own logic to solve your challenges.

4.3 Inhabitants

... meet new people and kill them.

To create a world, some may begin in creating the characters and then ask them questions;

- “Who are you?”
- “What do you fear?”
- “What do you desire?”
- “Do you want to die?”

The last question is vital for the character, because self-preservation is part of the gameplay, be it the player or the enemy.

A character more willing to die can appear more brave and self-sacrificing despite fearing the situation, making it a hero.

A character who wants to live may act like a coward and are cautious around new things.

Everyone living in the world may answer it differently, shaping the overall look of it. It could be a safe world or a dangerous world.



4.3a These three characters are of the same species and have the same job, but they are not exact clones of each other. Can you spot the difference between them?

The character's answers will tell you how the world and the society are.

The clothing will tell the world's current season/temperature, the character's culture, job and social status.

- If you like doing character designs, make up some and then build up a world around them.
- Engaging characters are driven by desires similar to us. That's how we can sympathise with them.

4.4 Props

Power-up!

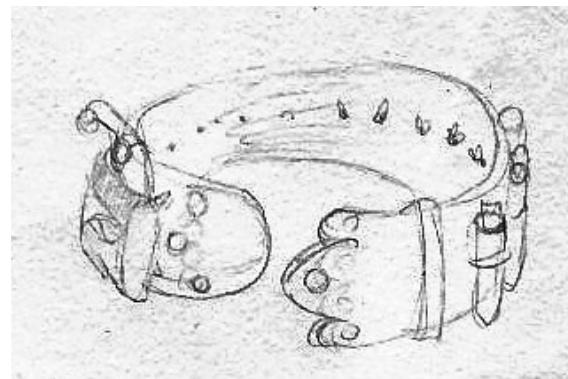
The prop's main purpose is to serve the gameplay. The player character can perform various actions interacting with objects, or items.

Her hands may burst into flames and be used as a weapon or she can instantly heal lethal wounds.

In real life, such things will severely burn her hands and healing from lethal wounds would take several months. To make absurdities believable they require plot and design.

Will the burning hands be a cream coated on the hands or be flaming gloves? Or is it an orb that flares up as soon it leaves its owner? Is it magic? Is it technology?

In our project example storywise; our main character Rufus is an alchemist, so he will be using flasks and herbs to mix up various potions and trinkets.



4.4a This is the “excuse” for the Alchemist’s seemingly magical powers. He is always carrying this multitool belt on his person, containing satchels and potions.

Since this takes place in a fantasy world we can bend the rules a little, making Rufus a “MacGyver”-type.

MacGyver is a television show where the main character is a secret agent who invented solutions on the spot from any items laying around, thus saving the day.

His inventions could be smoke bombs from tube socks and toilet rolls or anything as silly. The show was dead serious with their inventions. And the plot made it work.



4.4b Abe from Oddworld: Abe's Odyssey discovers he wield magical powers chosen by his long forgotten gods. He doesn't need guns! Or a pair of pants.

- Props are interactive objects.
- If you come up with a good lore explanation for your gameplay choice, you won't break the illusion of the game world.

5.0 The player

Don't be a player hater.

The Player Character (PC) is first and foremost a tool in the game world, the player's "hand". What the player does through her character produces a response.

5.1 Playability

The game Heart of Darkness (1998), about a boy fighting shadows, had a terrible story, but the gameplay was incredibly good and had clever solutions with the art.

The art distinguished the main character from his environment, by making his clothing in bright colours. The enemies were the opposite of him and were pitch black.

The story tells they're shadow creatures. Playing around with contrasts is a great way to tell the difference between the "good" and the "bad" in the game.

It can also produce plot twists if, for example, the game builds up with cute = good and then later introduce something cute and EVIL.

Even if the player is a master of disguise and camouflage, by making her too shrouded or completely invisible is a bad idea. Then the player won't know where to move and may walk off a cliff or die somewhere equally stupid.

But enemies with that ability can be presented as a challenge, and raises the difficulty of the game. The overall satisfaction will be great when the player managed to defeat such an enemy.

So the issue on how to make it playable is something the art direction should focus on. The target group will determine how the art might be shaped.

A gritty, detailed look may not be a game for children if you want to divert attention to the point of interests.

Also, the age of the main character can turn off intended target audience, depending on the culture they live in.

A Japanese audience may prefer teens as main characters while a European audience can accept older characters.



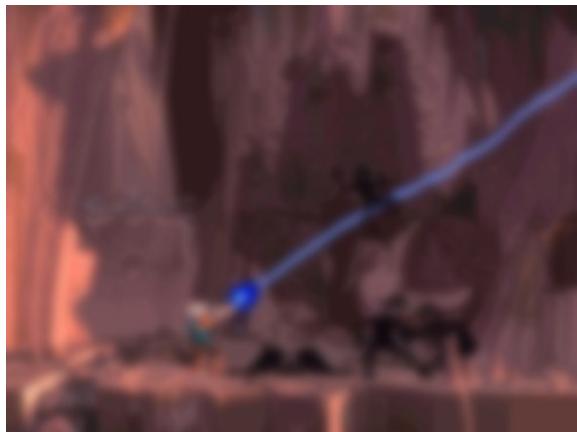
5.1a A suggestion of Rufus as a middle aged man, dressed for exploring.

- Main characters and enemies can contrast for quick identification...
- ...unless plot says otherwise.
- Think of target groups when designing characters. Who is it for?

5.2 Character Design

To look at the playability, one must begin to look at the character itself.

5.2.1 Building the character



5.2.1a This is an extremely blurred out screenshot from the game *Heart of Darkness*. The player character is still somewhat visible thanks to his colour scheme.

The character is recommended to be distinguishable from his environment. You don't want him disappear from the player's view = loss of control.

He may also require unique clothing or another colour scheme if he happen to look alike other non-playing characters (NPC).

The main character should have the most worked out thoroughly animations, since the player will see him a lot.



5.2.1b Abe from Oddworld rescues his kin that looks exactly like him. He's the blue.

A unique wardrobe is helpful to separate him from the rest of the cast. Work with contrasts:

- If the cast is simple, the main character can have detailed clothing.
- If the inhabitants are the complex wearers, the main character can wear simple as contrast.
- If all are dressed alike, separate your main character with a unique colour scheme.



5.2.1c Bad fashion sense.

Our project example; Rufus is an apprentice alchemist. So he could be sent out on errands for his master and thus may have comfortable traveling clothing. Since he's an apprentice, he may not have earned his "alchemist" robes yet.

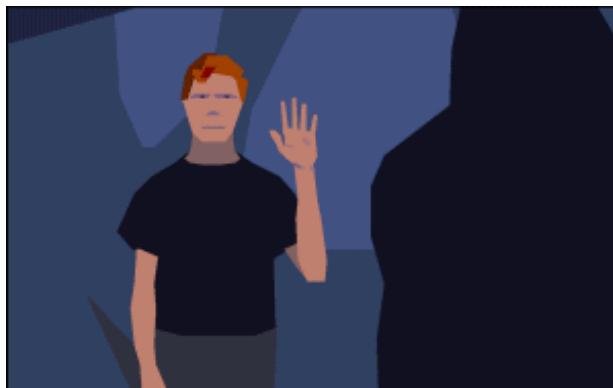
■Choose a look that let the protagonist pop out from the world.

5.2.2 Colour palette

How you colour the character can be vital for your game. The colouring can affect the sympathy the player feels for the character and affect the playability.

The game Another World (1991) made the character a redhead.

The red is a great contrast to the blue, cold alien world and may even provoke some sympathy for the redhead. Simply because of the warm red.



5.2.2a Screenshots of the main character from Another World. Here he is encountering a local. The colours ingame are mainly black and blue, but he stands out by being reddest.

People are friendlier in warmer surroundings. Warm and cold colours can produce the same effect.

The character can also have colours that clash with his/her clothing. So bad fashion sense can be a part of the character trait.



5.2.2b The main character Conrad from the game Flashback has a mismatched wardrobe.

Or mismatched clothing could be a way of separating the torso from the legs. If the character is crouched or lying down, the player can still tell the head from the toe.



5.2.2c This is the final Rufus. If Rufus was to be in a single colour, red would be so him!

- If you were to give your character just one colour, what colour would best define your character?
- What colour would best define the opponents?

5.3 Animation

The illusion of life.

The most distinguishable feature for cinematic platformers is the animations.

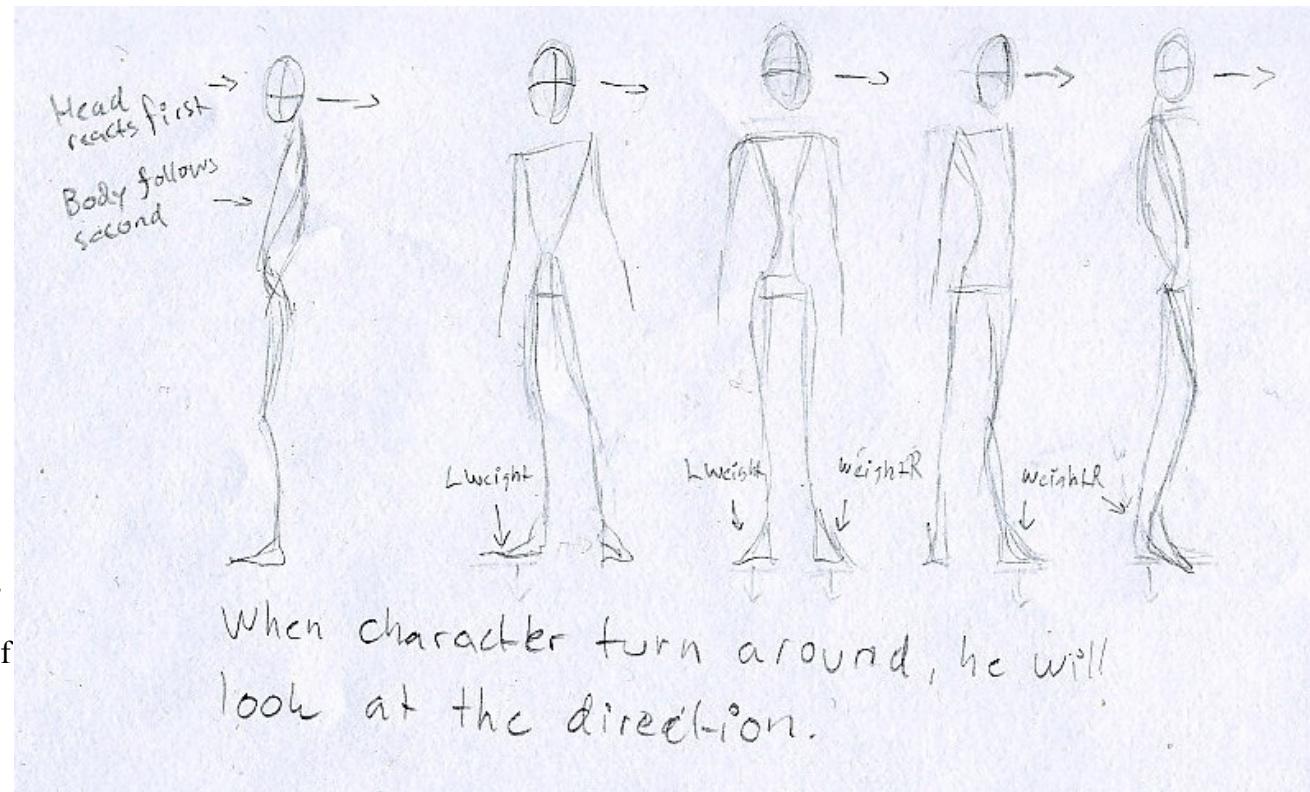
They aim for realism and often use rotoscoping (tracing live action movements) for their human characters. Thus every jump, turn, rise and duck action take time to perform.

Every action has a beginning, middle and an end. Start, action and stop.

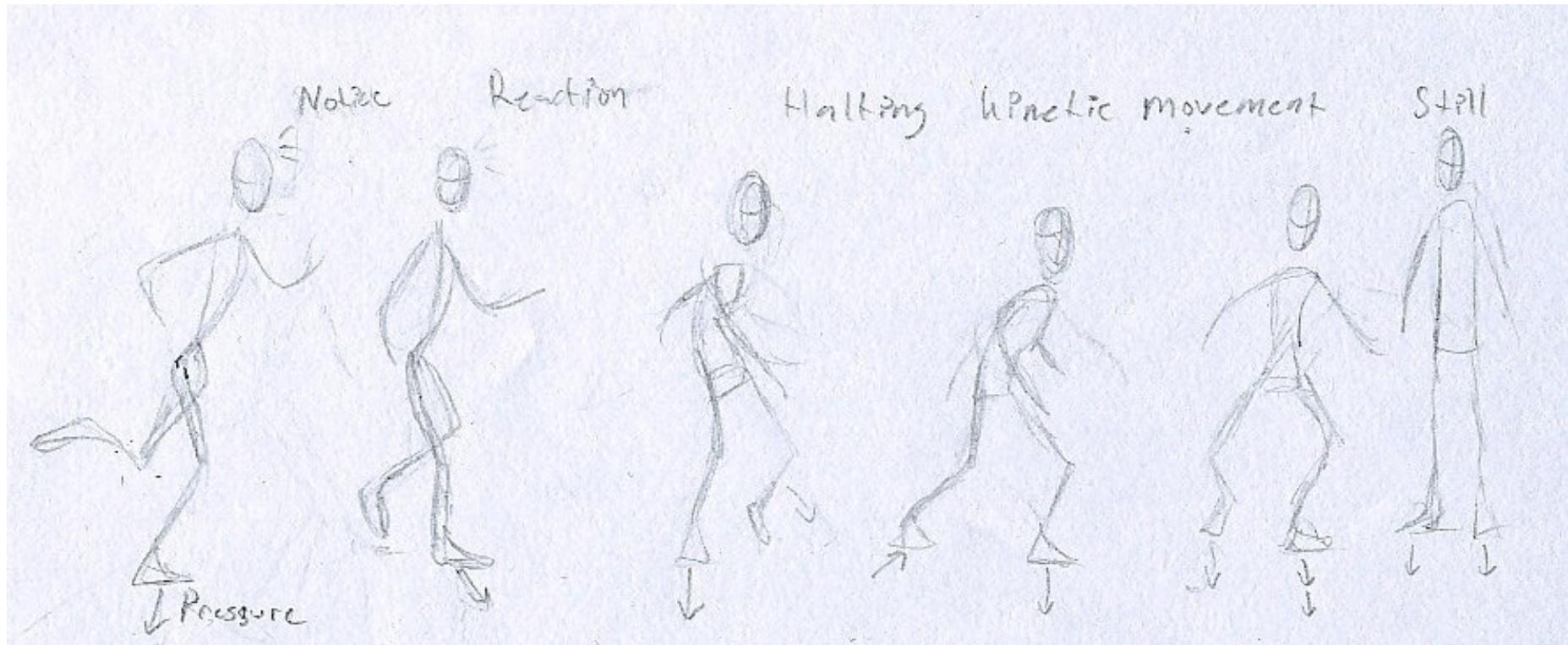
If the character is wearing heavy clothing, like a cloak or robe, it must also be animated. The cloth can add the illusion of haste when the character walk, run and suddenly stop.

Imagine the cloth behaving like a pendulum. It swings back and forth depending on how you move.

Since the character moves into unknown territory, he will always look at the point of interest while interacting and moving.



5.3a The image above portrays a simple turn, when the character changes direction. His head is the first that reacts, and is one step ahead the body in the turning action. While turning, he is shifting his body weight from one foot to the other, until he is resting his weight on both feet when still.



5.3b An example of the character decelerating. The first that happen is that the character notice; the character spots something. Then the reaction; he starts to act upon it. And then the rest of the animation displays how the player tries to stop. This part is to simulate friction. During movement, it's standard for the body weight to lean on one foot at a time.

Another example of a typical animation is the stop attempt after running.

Since the torso is still moving forward, the legs must apply kinetic force in the opposite direction in order to halt the movement.

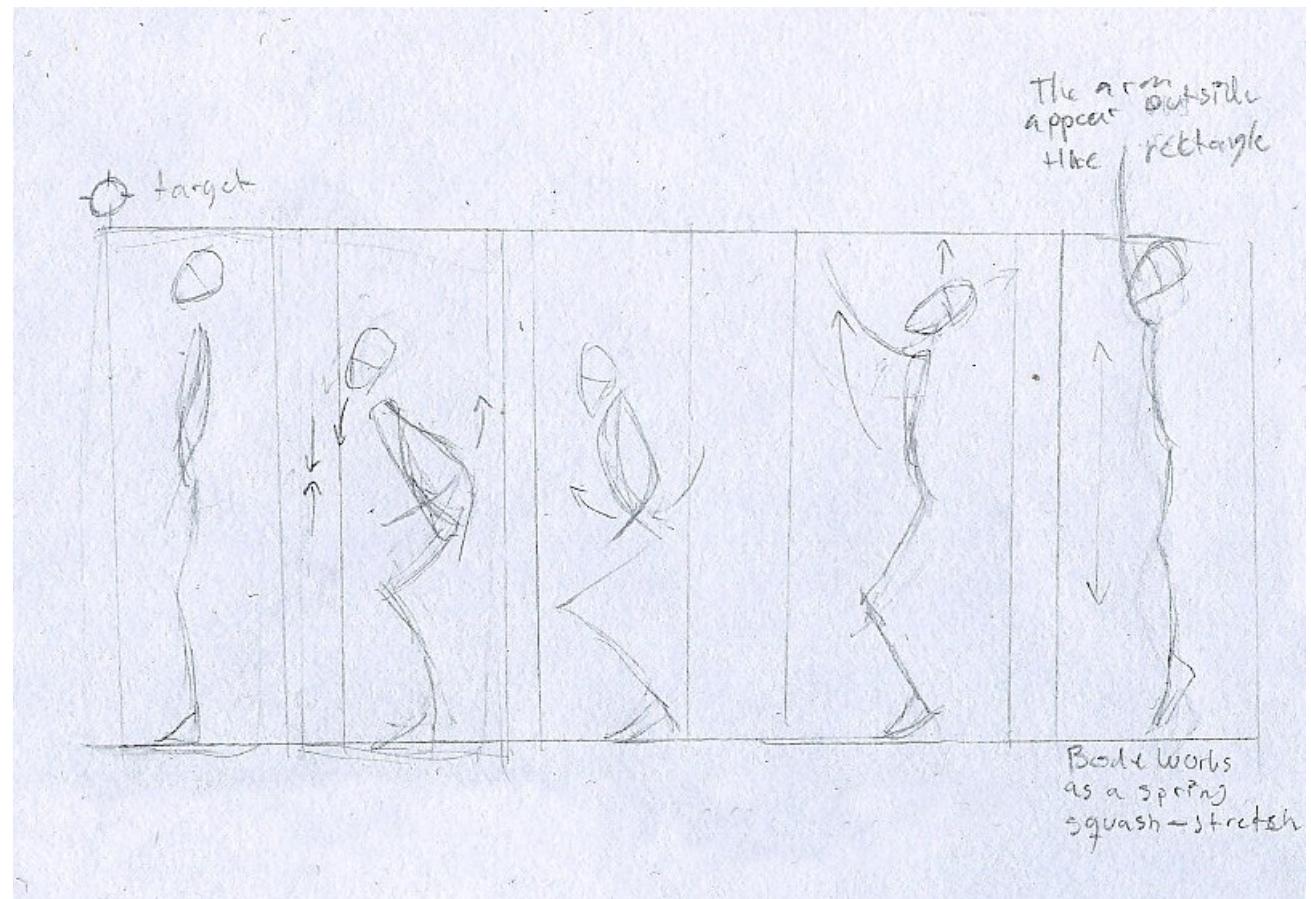
So if the character is having a faster speed at the beginning, the character will require a longer braking distance in order to halt.

When preparing to jump and grab a ledge, the character's head tilts down when the spine bends inward, following the neck. His torso and knees are always near the same "edge" of the box, to retain balance (if he's not moving forward). The same rule applies to his butt and heels.

Since 2D animations mostly lack a physics engine that can simulate gravity and mass, the animator must be schooled in the basic animation principles in order to provide realistic movements, which is important in this genre.

The limitation of movements inside this drawn rectangular box is an adaption after a game engine called Construct 2, which used the same sized sprites.

- Start and stop animations to actions simulate weight and friction.
- The Protagonist has always the best animations since the player is constantly looking at him.



5.2.3c The character attempts a jump. He first looks at the target (that could be a ledge or a rope). He then, still looking at the target, squats down to pounce up. He throws his arms back and swings forth, and his arms' mass produces a lifting force drag the body along. Then he pushes up with his legs, creating the jump. When jumping, he's stretching to his full length, in order to reach his target.

6.0 Sketchbook

Here are samples of the author's creativity used to draw inspiration.



6.0a Costume designs for Rufus the Alchemist.



6.0b An early sketch of Rufus.



6.0c Sketch of Rufus the Alchemist.

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