

GAME DESIGN TEST IPHONE GAMES

PROFILE

Name: Thomas Grové

Rate your design experience in the following fields:



Are you familiar with game prototyping tools? Yes

Which ones? Unity, Flash, Paper (actual paper and other physical props)

Rate your knowledge of these tools:



FAVOURITE GAMES

List the gaming devices you own or have played a lot (from most recent to oldest):

iPad, Android Phone, iPod Touch, Web, Playstation 3, XBox 360, OSX Mac, PSP, DS Lite, DS, GameCube, GBA SP, Playstation 2, Playstation 1, DOS/Windows PC, TurboGrafx 16 (PC Engine), NES, Apple II

Name three AAA games of the past 2 years you have personally enjoyed from a game-design perspective. The games can be of any genre, and on any hardware (iPhone / console / PC / mobile). Indicate their sales figures and/or ranking when available.

- ▲ Vanquish (3rd Person Shooter, PS3, 84 Metacritic)
- **Bayonetta** (Action Adventure, XBOX 360, 90 Metacritic)
- ▲ **Valkyria Chronicles** (Hybrid Tactics/3rd Person Shooter, PS3, 86 Metacritic)

My Current Top 3 iOS Games (Though Not Necessarily AAA):

- Color Bind (Puzzle, #16 in Strategy Games on Oct 3, 2010),
- **Guerrilla Bob** (Top Down Shooter, #2 in Adventure Games on Jan 8, 2011)
- Angry Birds (Physics Puzzle, #1 in Top Apps on Feb 23, 2011)

Data from http://www.topappcharts.com/



Part one: game analysis

Select one of the three games you've just listed.

Game chosen: Valkyria Chronicles

Valkyria Chronicles was released more than two years ago but I only began playing it about a year ago and think it will be a more interesting example to draw from than my other listed games.

All the following questions in this part will refer to this game.

1.1 Game screenshot



The above screenshot is of player movement during the "action mode" of a player phase during a mission. The player moves in real time and will come under enemy fire if they are within range. Movement drains the movement meter (orange, bottom center). Unlike traditional tactics games (which do not have realtime movement) the player does not get a chance to try out different destinations — their movement meter will not be replenished fully until the start of the next player phase.



1.2 Game structure



Valkyria Chronicles uses the metaphor of a book to present "chapters" as the game's story unfolds. Chapters are made up of several full screen cinematics and a playable mission or two. Each of the outlined boxes in the screenshot above are either a cinematic or a mission. The ones with an image have already been played, the ones with a "new" bubble are unlocked and may be played at this time.

From this "book" players have several different types of activities they can do including:

- View new and previous cinematics
- ▲ Mission selection (playing new and previous missions)
- ▲ Unit and platoon customization
- A Read stories about their exploits and their characters' backstories

Missions:

Missions are the main part of the game. They are broken down into several sections:

- Intro cinematic describing the setting, goal, and strategic importance of the mission
- A Initial unit deployment choice (done from "command mode")
- ▲ An alternating series of player and enemy phases
- ▲ Level Win/Lose





Each Player Phase can be further broken down into:

- "Command Mode" An overhead map view where the player can see which known units are in range of each other, see details of those units, issue commander special moves, and choose player units to move
- * "Action Mode" A realtime mode with an over-the-shoulder 3rd person perspective

Upon selecting a unit in Command Mode, the game switches to Action Mode. While in this mode, the player can:

- ▲ Move the unit by using the left analogue joystick
- Enter "Target Mode" by pressing the R1 shoulder button which allows the player to target enemies to shoot or units to heal or repair. Only one targeted action can be done per Action Mode. Enemies do not fire at the player while in this mode)
- ▲ Move more (so long as there is remaining movement meter)
- End the current action

Ending the current action (or unit death) will bring the player back to the map screen where they can issue another command or pick another unit to move until they run out of command points (represented as medallions at the top of the map screen). They may also opt to end their phase or save their progress.

Here is a link to a video of a speed run though one of the missions. It gives a good overview of the different gameplay in a mission: <u>http://www.youtube.com/watch?</u> <u>v=upWkOXoj3YQ</u>



Unit/Platoon Customization:

Between missions, they player can spend a lot of time configuring their platoon, these activities include:

- Unit assignment to their platoon (the pool of potential soldiers is usually much larger than the size of the player platoon)
- Spending experience points earned in missions to upgrade classes (such as shock trooper, scout, sniper, etc)
- Buying weapon/armor upgrades (which apply to all units equipped with that weapon/armor)
- Per unit weapon assignment
- Tank upgrades and configuration
- Commander special move acquisition

This downtime offers a nice break from the action and offers other modes of play that may help the game appeal to a larger audience.

Main goal:

The overarching thematic goals of Valkyria Chronicles is to end the world war and reclaim the sovereignty of protagonist's country. In gameplay terms this translates to achieving the win conditions in each of the game's non-optional missions.

Secondary goals:

A secondary thematic goal is to discover the truth about the mythological Valkyria, a race of women super soldiers. That sounds really funny in writing but it works in the game.

In terms of gameplay secondary goals, a player could choose to max out the stats of each class, complete optional missions, or get a "Rank A" score on all missions.

Mission Goals:

The win condition of most missions is the capture of the enemy main base. There are sometimes critical sub-mission goals such as defeating a certain enemy unit or destroying a bridge of importance. There are also non-critical goals that a player may choose to pursue such as the capture of minor enemy bases, the killing of enemy commanders (so the enemy has less command points to spend per phase), and rescuing any critically wounded player units.

The lose conditions for most missions are: the enemy capturing the player's main base, the death of specific player units (like the main characters), and running out of turns before reaching a win condition.



1.3 Memorable moments

Describe one memorable gameplay moment happening in the game. Add screenshots if necessary.

Chapter 8a was a memorable mission which introduced substantially different gameplay from previous missions while building on all of the core skills that the player has learned thus far.

In the mission's prologue the player sees the core members of their squadron discussing what to do next. It is night time and they are behind enemy lines, without warning an enemy mortar lands nearby, causing a landslide which separates the game's two main protagonists from the rest of their team. When control is handed over to the player they are presented with a very different experience than any of the prior missions:

- This is the first night mission; visibility is reduced and enemies do not appear in the Command Mode map until your unit is very close to them.
- You only have command of two units, and they are both critical; if either one dies you will fail the mission.
- One of your two units is injured; she can only move about half as far per turn as she normally does.
- A mortar mechanic is introduced; at the beginning of each player phase an orange circle will appear somewhere on the Command Mode map. If you have any units within that mortar's radius by the end of your turn, they will be hit, and possibly killed by the mortar during the enemy's phase.
- A spotlight mechanic is introduced; if your player is caught in the sweeping spotlight during the Action Mode, a second mortar will be targeted at that location.

Provide a quick analysis of this memorable sequence: why is it entertaining, why is it successful?

This is the first night time mission so immediately the mood is different than any previous missions. The limited visibility, scarcity of resources (only two handicapped and critical units with no tank support), and introduction of mortars and spotlights force the player to adopt a much more conservative and stealthy play style — they inch along, crawling through grass and keep their two units close together just in case they need to heal one another. The player feels a bit of trepidation since the stakes are so high but in other ways this mission is a lot more relaxing than the previous one which was essentially a high stress, fast passed boss fight. It is this contrast in gameplay with the previous mission, as well as the challenging yet masterable mission conditions which not only make this mission rewarding but also memorable.





Part two: platform game design

Goal: define the basic elements of an iPhone platform game (like Rayman, Mario, Sonic...), and create a level using these elements. It must be a side-view game.

Sample target hardware: *iPhone 3GS*

http://www.apple.com/iphone/specs.html

2.1 Main character and abilities

Basic abilities are:

- ▲ Move to the right
- ▲ Move to the left
- Jump (Jump height = twice the character sprite height)
- ▲ Crouch

Design the main character, make a short description of him/her below: (no drawing needed)

The main character is a <u>wind god</u> named Zephyr. He is shirtless but has a flowing scarf that floats around his body which serves as a device for exaggerating his motions in the game (both in terms of general movement as well as attacks, etc). Zephyr is approximately 40 px high. If a sprite based system is used then all of his animations will be limited to a 64px*64px sprite.

Describe the game context shortly (setting, background...)

Zephyr is in a fierce rivalry with his brother Boreas — both vying for the attention of the beautiful Chloris. Zephyr plans to impress Chloris by hosting a kite flying festival but there's a problem: Boreas has cast a spell on Zephyr, removing his wings and his power of full flight. Zephyr must venture from his countryside villa and brave the wilds as he works his way north to confront Boreas and retrieve his wings in time for the festival.

Define 2 special skills for the hero. Those skills should be available from the beginning of the game.

Despite losing his wings, Zephyr is still a wind god and as such has access to a few special skills.



Special Skill #1: Wind Gust

Description: An attack and puzzle solving mechanic. Shoots a small gust of horizontal wind from a "punch" assisted by Zephyr's scarf (think Rose from Street Fighter) in the direction that Zephyr is facing. Visually this could be represented by a small tornado (21px high).



Special Skill #2: Cloud Walk **Description:** Zephyr can briefly land on clouds, using them as temporary platforms to run across or jump from before they dissipate.

Define 1 special skill that will be unlocked at a specific point in the level (i.e. not available from the beginning of the level). Note: This skill will be used in the LD of Part three.

Special Skill #2: Updraft Sailing

Description: Zephyr can take advantage of "updraft pads" to catch a ride to high or far platforms not reachable otherwise. A drawing mechanic allows the player to draw the air current that will carry Zephyr to hard to reach places. Further explanation can be found in the Interactive Elements section bellow.

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2.2 Entertainment culture / Competitors

Taking examples from other entertainment products (movies, TV shows, music, arts...), what would be the key references for your game?

Literature: Greek mythology

Retro Games: Super Mario Bros. series, Blue Blink, Kid Icarus **Visual Art:** iconic Tibetan <u>Thangka</u> and Japanese mythology paintings, Greek architecture, Italian Renaissance painting

Add visual references if needed.



Two images of **Zephyr** from the Renaissance and an image of **Fujin** (Japanese wind god, apparently based on Boreas).



Images of **New Super Mario Bros.** and **Blue Blink.** This is the level of rendering that should be attempted, though I also think the slightly more detailed rendering of *Castle of Magic* and *Toki Tori* (see next page) would work well.



What are the direct competitors of this game? (i.e. of the same genre, on the same platform). Add screenshots if necessary.







Hook Champ



Soosiz



Toki Tori



Volcano Escape

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What are the other competitors of this game in terms of gameplay? (i.e. on any other device). Add screenshots if necessary.

Updraft Sailing



The updraft sailing could be similar to the drawing mechanics in *Lost Winds*, *Okami*, and *Max and the Magic Marker (all pictured above)*. It could alternatively be more like the physics launching in Angry Birds.

Wind Gust



Street Fighter, Kid Icarus, Rygar, MegaMan and many other games have successfully used horizontal projectiles.



2.3 Controls

Define the controls under the following constraints:

- ▲ iPhone 3GS
- ▲ 1 virtual pad + 2 buttons.
- ★ Double input (i.e.: two simultaneous inputs on different parts of the screen can be detected)

Control Assignment

- Move to the right: pad right
- ▲ Move to the left: pad left
- Jump: button A
 Crouch: pad down (I don't think this is necessary for this game)
- ▲ Wind Gust: button B
- ▲ Cloud Walk: works automatically as long as the cloud dispersement threshold has not been reached
- ▲ Updraft Sailing: drag finger from updraft pad towards desired destination

Which specific issues should you cover in order to ensure maximum usability on this touch-screen device?

Layout

Virtual Pad	Main Gameplay zone Try to keep critial gameplay elements above this line It might be a good idea to display score, health, and lives in this lower part of the screen so that the upper part of the screen may be maximized for gameplay	



Camera

	The camera system should track the player character and keep him within this bounding box. It would be ideal if the designers have the ability to explore a variety of bounding box threasholds and camera lerp easing and speed settings.	
Virtual	Pad B B	

The main issue facing platforming games on touch devices is the lack of physical buttons. On-screen virtual buttons are often used instead but this can result in up to 1/3 of the usable screen real estate being covered by the player's fingers. In the two above diagrams (Layout and Camera) I show ways to make the best out the situation.

The worst thing that could happen is that critical gameplay elements such as enemies or collectables catch the player by surprise due to their fingers being in the way. Taking this into consideration when developing your camera code and level design can go a long way to make sure this doesn't happen.

As for the A and B buttons, they are offset to improve ergonomics. I'd also like to experiment with doing the same with the d-pad or left and right buttons (see section 2.5 bellow).



2.4 Gameplay elements

The goal of this part is to define the basic level design elements of your game.

Surface properties

The map is composed of different surfaces.

Example:

Surface #0: solid ground

Properties:

Objects (including player) collide with the upper part of the tile. Player and NPCs will therefore be able to walk on it.

Define 3 additional surfaces

Surface #1: Ice



Properties:

Ice has the same collision properties as solid ground. It differs from solid ground in that the player is unable to start and stop their movement instantly (there is momentum) giving the impression of a lower coefficient of friction. Note that the timing of the player's attacks and jumps will not be affected by this movement model.

Surface #2: Cloud



Properties:

Player's special "cloud walk" skill allows the player to briefly stand on the cloud. If the upper part of a cloud tile has been touched by the player, it will temporarily disappear (dissipate) after 1 second. This value may change after playtesting.

Most objects will not collide with the cloud, it is only due to the player's special skill that they are able to walk and jump on clouds.

Surface #3: Lava



Properties:

Lava is a hazard. If the player collides with it they will lose one life and return the the previous checkpoint.

Interactive elements

Players can interact with these elements to reach new places in the level, collect bonuses, destroy enemies or do anything else you want.

For instance: barrels from 'Donkey Kong Country', pipes from 'Mario', plums from 'Rayman'.

Define 2 interactive elements and describe the gameplay they create.

Interactive element #1: Checkpoint

Gameplay:

As soon as Zephyr crosses over a checkpoint, a small vfx and sfx will play, alerting the player that their progress thus far has been saved. If the Zephyr runs out of health, the player will respawn at the most recently activated checkpoint.

Interactive element #2: Updraft Pad

Gameplay:

Updraft Pads allow a special type of interaction that takes advantage of touch interfaces. When Zephyr stands on top of an updraft pad, the player can touch anywhere on the upper two thirds of the screen and the wind will follow a b-spline from the pad to the player's finger. When the player releases their finger Zephyr will fly along the arc of the pad's wind.

Enemies

Define 2 enemies and describe their behaviour.

Enemy #1: Angry Harpy

Behaviour:

The Angry Harpy flys back and forth in its zone. It almost aways spawns above the player's position. It carries with it clay

pots that it tries to drop on top of Zephyr. After being dropped, a new pot is loaded in X seconds. If the Angry Harpy is carrying a pot, an initial Wind Gust from Zephyr will cause it to drop its pot prematurely, a second Wind Gust will send the Angry Harpy flailing off of the screen, leaving a trail of falling feathers in its wake.

Enemy #2: Fire Burping Toad

Behaviour:

The FBTs are more or less stationary, though the will jump to avoid damage from a Wind Gust. If Zephyr gets too close they may also let out a caustic burp.













Rewards

Describe the in-game reward structure (during a level):

In game there are different reward structures such as:

Collectables and Exploration

One of the reasons why Super Mario and Donkey Kong Country were so well received is that they had collectable objects. In some cases they have common collectable objects and rare collectables (coins vs stars or bananas vs coins, etc). The presence of these collectables encourages some players to explore the level to find them all rather than rushing through it. The act of exploration in itself is rewarding but it becomes especially rewarding when the player finds something unexpected and is given more tangible recognition such as coins or 1-ups.

Points

The player is rewarded by points for every enemy dispatched.

Risk vs Reward

Having some treasures placed in hard-to-reach or dangerous-to-reach spots, especially if these are optional presents a classic risk vs reward structure. Likewise, confronting enemies and receiving points for dispatching them as opposed to avoiding them through platforming is another classic example of risk vs reward.

Describe the out-game reward structure (in-between levels):

At the end of a level a total score and achievement tally is presented to the player. These results are potentially sharable over social networks and gaming social layers such as Game Center or Openfeint. If we wanted to be follow the model of social games we could even offer the player a 1-up if they share their success with their friends.

Budget depending, the player may also be rewarded by a short vignette which may progress the story or add dramatic tension or comic effect.

What kind of behaviour is encouraged by this reward structure?

With the examples listed above, we can expect to see the following behaviour:

- Players sharing their success with their social graph, hopefully resulting in increased exposure for the game.
- Players playing additional levels and hopefully playing the game through its completion.
- Players replaying levels in order to find secrets they've missed or to get higher scores or faster times.



2.5 Game audience

List the features that will make your game appealing for a casual audience (i.e. not hardcore gamers)

I think some of the design constraints such as a full virtual pad and two buttons already make the game fall short of the casual and mass appeal of a Doodle Jump, Angry Birds, or Canabalt — all of which use a single input control scheme. That being said, if this game were to be targeted at a system with buttons (say Nintendo DS for example) then I believe its reliance on only two buttons would be simple enough for mass appeal.

The inclusion of a checkpoint system and having the level design focus on more exploration and less combat are also ways to appeal to a more casual audience. This could be taken further by the introduction of a health system (let's say 3 hearts) so that if the player is hit by an enemy or touches lava they will not immediately die, rather they will take damage and be temporarily invulnerable, allowing them enough time to get out of danger.

Which additional features will you add to make it also appealing to a mass-market audience?

The further the art direction leans towards *Super Mario Bros.* and away from *God of War*, the more mass market this title will be. I think the light hearted, tonguein-cheek, story will also lend itself towards a larger market than a game that takes itself too seriously would. Including links into the social graph by leveraging a system such as OpenFeint, Crystal, Plus+, or Game Center wouldn't hurt either.



Replacing the Virtual Pad with Left and Right Arrows, and removing the crouch functionality would also be a good idea to make this game more casual friendly.

Could you imagine a concept targeted to the girl audience?

Yes, but I wouldn't rely on my imagination alone. I would consult female members of the team and also conduct market research in order to refine a concept that would have a higher chance of appealing to a girl audience.

If the question was "will *this* game appeal to a girl audience?" then I think the answer is that it will probably appeal to girls agest 8-12, so long as the art direction is visually appealing and enemy or player death is handled in a way that is not gruesome or overly violent.



Part three: level design

Goal: Create a level using all the elements listed above.

3.1 Visual references

Taking inspiration from mass-market media, entertainment (music, movies, animation, comics...), or any medium of your choice, add a set of visual references that will help the team to set the tone of the level.













3.1 Visual Reference (continued)





3.2 Level design

Describe how and when is the third character skill is unlocked in this level. What will you do to ensure players understand its use and master it immediately?

Updraft Sailing is unlocked when Zephyr comes across the first Updraft Pad (located about half way through the level). During this initial encounter the game will pause and a card with tutorial text will pop up. The tutorial will describe how to use the Updraft Pad for Updraft Sailing and mention that this will allow Zephyr to reach places that are further away than he can jump. This first Updraft Pad is located in a fairly safe location and the player will not be able to get past this area without effectively using the pad. The mechanic will be very intuitive so the player should be able to master it after a few tries. The remainder of this level isn't too challenging either and the player will have two more updraft pads that they can practice on.

Use all the elements you've just defined to build a level.

The level should feature all the surfaces, design elements and enemies you have described in this test.

The constraints are the following:

- Max level size: 8000*2400 pixels (width*height)
- Max character size: 70*115 pixels (width*height)

(these are max values so they could vary if you think it's appropriate)

Note: for this to conform to actual iPhone 3GS resolution, the constraints was adjusted to the following:

- Max level size: 4800*1600
- ▲ Max character size: 47*77



Link: download the full resolution bitmap



3.3 Fake screenshot

Using whatever bitmap editor you want, make a fake screenshot of your game

Constraint:

▲ Screen size: 800*480 pixels (width*height) – landscape format



Constraint:

▲ 3GS screen size: 480*320 pixels (width*height) – landscape format

