HOW TO SHARE THE LOOK AND FEEL OF THE GAME DIAMOND DASH iOS

Making it Easier to Adapt to the Style of Diamond Dash iOS and Enhancing Communication within the Team with a Style Guide

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Bachelor’s Thesis
June 2013
Degree Programme in Media
ABSTRACT

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Bachelor's Thesis 44 pages
June 2013

The objective of this thesis is to learn how the look, feel and work methods of a specific game, Diamond Dash iOS, could be shared with new and existing team members. The study and outcome was carried out as a project. The result of the thesis was a visual style guide for two devices: one for the iPad and the other for the iPhone. Their purpose was to make it easier for new team members to adapt to the look and feel of Diamond Dash iOS. The style guides were also meant to enhance communication within the team and share the know-how of the team that created a top-grossing mobile game.

The thesis describes the process of planning the style guides and the process of creating them. All style guide pages are explained in detail; what they include and why it is important to have the information like it is. This process can be similar to any other style guide creating process. The thesis explains what style guides are and what their purpose is in the games industry. Style guides are usually created by Art Leads. As an intern, the author of the thesis had a real challenge to overcome.

In the future there will be more devices and other platforms. New design decisions will be made as the game is developed further. The style guide will be outdated quite fast. It will still be a document that shares the knowledge about the current state of Diamond Dash and its development at that time. It will be useful when looking back to what Diamond Dash was. It is also a general guide with a good amount of details.

Key words: style guide, mobile games, game development
CONTENTS

1 INTRODUCTION .................................................................................................................. 6
2 STYLE GUIDES .................................................................................................................. 7
   2.1 What is a Style Guide in Games Industry? ................................................................. 7
      2.1.1 Pre-Release Style Guide .................................................................................... 8
      2.1.2 Post-Release Style Guide .................................................................................. 9
      2.1.3 Conclusions about the Style Guides ................................................................. 10
   2.2 Style Guides in Other Industries ................................................................................ 11
3 INTRODUCTION TO DIAMOND DASH ........................................................................ 13
   3.1 What is Diamond Dash? ......................................................................................... 13
      3.1.1 Some Numbers about Diamond Dash ............................................................ 14
   3.2 The Evolution from Flash to iOS ............................................................................. 14
4 BREAKING DOWN THE PROBLEM AND FINDING THE SOLUTION ................. 16
   4.1 How to share the style, look and feel of Diamond Dash iOS? ............................. 16
      4.1.1 New Employees ............................................................................................... 16
      4.1.2 Communication within the Team .................................................................... 17
      4.1.3 Server Folder Structure .................................................................................. 18
      4.1.4 Communicating and Coordinating External Teams ....................................... 18
      4.1.5 Sharing the Know-How .................................................................................. 19
   4.2 Visual Alignment .................................................................................................... 19
      4.2.1 Case: Diamond Dash iPad ............................................................................. 20
5 PLANNING THE DIAMOND DASH iOS STYLE GUIDE ............................................ 22
   5.1 Planning the Style Guide ....................................................................................... 22
      5.1.1 Asking Advice from Experts ......................................................................... 22
      5.1.2 What Should the Style Guide Cover? ............................................................. 23
      5.1.3 Layout ............................................................................................................. 24
6 CREATING THE DIAMOND DASH iOS STYLE GUIDE ........................................... 27
   6.1 Implementing the Plan ............................................................................................. 27
      6.1.1 Color Palette .................................................................................................. 27
      6.1.2 Fonts ................................................................................................................. 29
      6.1.3 Icons and Logo ............................................................................................... 30
      6.1.4 Character ......................................................................................................... 31
      6.1.5 UI – Main Menu .............................................................................................. 32
      6.1.6 iPhone vs. iPad – Main Menu ......................................................................... 33
      6.1.7 UI – Gameplay ................................................................................................. 34
      6.1.8 iPhone vs. iPad – Gameplay ............................................................................. 35
      6.1.9 UI – Frames and Pop-ups ................................................................................ 36
6.1.10 UI – Buttons ................................................................. 37
6.1.11 Animations, Effects ...................................................... 38
6.1.12 Advanced Animation ...................................................... 39
6.1.13 Folder Structure ............................................................ 40
6.1.14 Assets ........................................................................ 41
6.1.15 iPad Mini / iPhone 5 ...................................................... 42

7 LESSONS LEARNED ............................................................. 45
7.1 Feedback ........................................................................ 45
7.2 The Importance of Feedback and Iteration ......................... 45
  7.2.1 Finding Resources ........................................................ 46
7.3 Software .......................................................................... 46
  7.3.1 Problems in Creating a .PDF ............................................ 47
  7.3.2 Decreasing the File Size ................................................ 47

8 CONCLUSION ..................................................................... 49
REFERENCES ....................................................................... 50
APPENDICES ........................................................................ 51
  Appendix 1. The Interview to Artists at Wooga. Resources for the style guide. ..... 51
  Appendix 2. Interview Answers. Resources for the style guide ......................... 52
# ABBREVIATIONS AND TERMS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>.FLA</td>
<td>A file created in Adobe Flash</td>
</tr>
<tr>
<td>.PSD</td>
<td>A file created in Adobe Photoshop, bitmap graphics</td>
</tr>
<tr>
<td>.PDF</td>
<td>A file type, compressed documents with text and images</td>
</tr>
<tr>
<td>.AI</td>
<td>A file created in Adobe Illustrator, vector graphics</td>
</tr>
<tr>
<td>.PNG</td>
<td>A file type for graphics, often used in the game development</td>
</tr>
<tr>
<td>UI</td>
<td>User Interface</td>
</tr>
<tr>
<td>HUD</td>
<td>Head-up Display, a part of a game’s visual user interface</td>
</tr>
<tr>
<td>iOS</td>
<td>Apples operating system in its devices</td>
</tr>
</tbody>
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1 INTRODUCTION

This Bachelor’s Thesis describes the process of creating a style guide for a social mobile game. The purpose of the style guide is to share the visual information about the game (i.e. the look and feel) to other members of the team. There was a question: “How to share the look and feel of Diamond Dash iOS?” This was my case. As a solution for the problem, I created a style guide for the game.

The Bachelor’s Thesis aims at studying the method of enhancing communication within the game project team with a style guide. The Diamond Dash iOS team wished to have a style guide as a visual document. The document gathers the visual points how the game is developed and showcases them in an understandable way. It is a useful introduction to the game’s general style for new team members.

During the process I learned the main principles of making a style guide in the games industry. It requires a strong feel and a lot of detailed information about the game. It is necessary to know the game well. I achieved to make a good style guide for Diamond Dash iOS. The team was pleased with the result and new team members found it useful as they started working in the team.
2  STYLE GUIDES

2.1  What is a Style Guide in Games Industry?

In the game industry, a style guide is used as a visual guideline for a game. Its purpose is to explain the game’s graphical style and feel. It can also describe carefully how to recreate assets in the same style the game already uses. It can include topics such as colors, characters and storyboards (Rouse, 2005, 315). This way the game’s visual style is kept consistent even though several different artists are working on it. A style guide can also be called “Art Bible”, which is more of an industry way of describing the document.

![Application of Concepts - Witch Doctor](Picture 2. Dota 2 Art Guide. (Valve Corporation 2012)]

A style guide does not necessarily have to be a booklet filled with guidelines. It can also be something completely different, depending the way the team likes to work. In some teams it works equally well when they print out A4 paper sheets and pin them on the wall for everyone to take a look at (Van Schagen, 2013).
In a usual case game style guides are made before the game gets to production phase or during the early production. According to Rouse (2005, 315) the art bible is usually made by the Art Lead and the art team together to define the style and feel of the game in detail. It is a good step to take to start the art design process. Consistent art style should follow throughout the whole production.

While designing the feel and look of the game, people creating the style guide usually create mood boards to define what they want from the game. Mood boards can be collections of pictures, colors, photos or shapes. It is a collection of inspirational elements to create a feel for the product. Mood boards are basically rapid visual prototyping. They are used in many different fields of design, for example web design (Wagner, 2008).

It is mentioned in a book about Game Design by Rouse (2005, 316) that the game style guide normally consists of rules and defines the visual style of the game. It is a collection of rules to keep the game’s visual style consistent. The game designers of the
game should also be familiar with the style guide. They should make sure that the art style corresponds to the rest of the game.

The style guide makes it easy for artists to follow a certain style. Without a style guide it is easy to, for example, forget about the direction of the light and make some assets look absolutely wrong in the game environment. The style guide can also include technical details on how to create textures and other art assets (Rouse, 316).

### 2.1.2 Post-Release Style Guide

In Diamond Dash’s case, the style guide was made long after the product was published. The style guide’s purpose is to explain how the game is built visually. This should make it easier for programmers, artists, designers and product managers to understand how the basic layout works. Also new employees have a great tool to get to know Diamond Dash’s visual feel better.

The style guide also unifies and aligns the styles across devices. The game should look coherent and recognizable from one platform to another. The iPad and iPhone versions have looked different due to the fact that iPad has more space in the screen. There has been more room for decorative elements. The style guide’s purpose is to keep these two separate versions coherent and have the same kind of feel to them.

The style guide is a documentation of the game. It shows the current state of the visual features. Later on the development team can look back to it as a milestone and see what they have achieved during the time. It is a good way of evaluating work and seeing the development.

There was an iPad style guide for Diamond Dash iOS before I started working on the new style guides. It was meant to share the style of the iPad version. Since all the versions, Facebook, iPhone and iPad, are all different, the team thought that an updated document would be valuable to them.
2.1.3 Conclusions about the Style Guides

There is a difference between a non-published pre-release style guide and the post-release style guide. Diamond Dash is already a published product. It already has a consistent visual style to follow, while products that are not in production yet need visual guidelines.

Building a style guide of an existing game starts with planning what the guide should cover and what its purpose is. The purposes of a style guide for published and non-published game can be also quite similar. They both are there to keep the style and feel of the game consistent. It is perhaps more important to a game that is still in production since team members can change more often. In a published game team, there can also be new members as well but usually there is not as much change. There needs to be a tool to share the knowledge of the style so that new people in the team can start working faster and more efficiently.
2.2 Style Guides in Other Industries

In other industries style guides are used in the same manner as in the games industry. They describe the ways the company or the team design their products or projects and find efficient. They can include pictures, photos and other illustration and descriptions as well as just plain text.

In illustration, for example, style guides can be related to the house styles of a company. It can include guidelines on how to reproduce text and design in for example company’s website (Van Schagen, 2013).

There can be a lot of different media to show the guidelines. For example in the film industry, some style guides are in video format. There can be also animated style guides for using the right words in journalism. These kind of style guides are much more informative than a file full of text and might be even more effective in teaching the style to the target audience.

In animation the style guide can cover for example one character. It is usually called a character sheet. All body parts used in the character animation are gathered on one page. The result will be more consistent even though many artists and animators are working on it. They will know how the character works. Animation series style guides can also cover detailed information about the environments and the colors scheme.

For TV series, a style guide can be a little bit different. To keep the story consistent, there has to be something to refer to. In a Finnish TV series called Uusi Päivä, they use a document called Character Bible. According to Kanto (2013) this document describes everything about the characters in the series. It is easy to look up in the Character Bible whether a character has been to high school, how many family members they have or how they are like. This document also describes the story of the town.
3  INTRODUCTION TO DIAMOND DASH

3.1  What is Diamond Dash?

Diamond Dash is a successful fast-paced 60-second arcade game. It is developed by a dedicated team within the social game company Wooga, based in Berlin. It has been the flagship of the company since its launch and has been successful and liked all over the globe.

The goal of the game is to score as many points as possible within 60 seconds by destroying groups of colored gems. There are also various boosts to improve the score.

Diamond Dash is a casual and social arcade game. Anyone with an access to Facebook or use iPhone, iPad or Android devices can play the game. They can ask their friends to play and help them in their game by sending lives via Facebook. Diamond Dash also has a weekly tournament where players try to beat their friends’ score and get awarded with medals.

PICTURE 1. Diamond Dash on iOS, iPad and iPhone (wooga.com)
Diamond Dash has one recognizable character, a panda. The panda looks oriental and is flying on a cloud. He shows up in the menu to evoke players’ emotions but is not part of the gameplay.

### 3.1.1 Some Numbers about Diamond Dash

Diamond Dash was originally released on Facebook in the year 2010. At the end of in the year 2011 it was released on the iPhone, followed by the iPad version in the 2012. It has been optimized for the new iPad and iPhone 5 (Parschat, 2012). The latest version was released on Android platforms in the end of 2012.

In January 2012, Diamond Dash had over a million daily users and over 10 million monthly users (WebMediaBrands, 2013) and has been downloaded 100 million times (Wooga, 2013).

### 3.2 The Evolution from Flash to iOS

The first version of Diamond Dash was released on Facebook. Since it launched successfully and proved to be a profitable game, the developer team decided to bring Diamond Dash also on the iPhone, iPad and iPod touch (Wooga, 2013). That was a challenging task. A lot of redesigning and polishing is required in the process of porting a Facebook game from the PC environment (i.e. browser) to a touch-screen mobile device.

In a presentation about porting the game presented at Nordic Game Conference 2012, Teemu Haila, the product manager of Diamond Dash at the time, explained what the biggest challenges were (Haila, 2012).

The first thing to think about was how Diamond Dash should feel on the iOS device. The User Interface (UI) is complex in the Facebook version and it has a lot more space due to the resolution. When it comes to the UI on iOS devices like iPhone 4, the space is much more limited. The UI had to be redesigned to fit in the small screen (Parschat, 2012). It should be usable for everyone and have as little hindrance as possible, like the
amount of text or unnecessary steps to reach the actual game.

It had to also be taken into account that in iOS devices the application build size should be kept as low as possible. For Diamond Dash, the team tries to keep the size under 50MB. The team solved this by for example reusing assets in the game (Parschat, 2012).

The team decided to connect the iOS version to Facebook. All the users that had previously played in Facebook could now easily connect to their account. According to Parschat (2012) that means they could sync their score, friends and weekly tournament, and send lives to their friends.

The iPhone version was launched first but there was more to come. The iPad version was again something different: more space than iPhone but not quite the same as the Flash version of the game. The UI had to be redesigned once more.

At the moment, Diamond Dash is still up and running as a successful social arcade game; in Facebook and iOS devices but also in Android phones and tablets. It was also announced to be ported to Amazon’s tablet, Kindle Fire, in March 2013 (Wooga, 2013).
4 BREAKING DOWN THE PROBLEM AND FINDING THE SOLUTION

4.1 How to share the style, look and feel of Diamond Dash iOS?

The problem this Bachelor’s Thesis aims to solve is how to share the style, look and feel of Diamond Dash. I started to look at the problem from my own perspective. I was a new employee and an intern. I did not have much of experience of big companies in the game industry when I started in October 2012. As a new team member in the team, I had a hard time in the beginning. I had to learn how the game is like, how it is developed, how the team works and communicates and where to find all necessary source files and assets for my own work. This is the way in which people usually learn about the project and workflow of the team.

The product manager of the team, Al Sinoy, came up with the idea of creating a style guide. He wanted a general documentation about the game and how to make the designs pixel perfect. I added my own point of view of creating the document for new employees, to make their orientation to work smoother. I got five months to design and create a great style guide.

It is a challenge to make it easier to learn about the style and ways of working, especially for new team members and external teams. For this purpose I designed a style guide that covers all the main aspects a new team member should know. The contents were discussed with artists and product managers. It was necessary to get feedback from different points of view to make the style guide support various demands.

4.1.1 New Employees

Diamond Dash is a top-grossing game since a few years already and does not seem to stop attracting people from playing. The team members are changing and new ones are hired. Sometimes it is hard to get used to the new work environment and the communication style of the team. It might be time-consuming to find all the assets and source files you need for the work.
Adapting to the look and feel of the game can take a while. It can be stressful and frustrating. Especially locating the files in a poorly organized folder structure can be difficult. It also happens that employees leave the project and move to another one. Someone needs to forward the knowledge of the art style of the game. According to Panke (2013) new employees can have problems with adapting to the art style of the game if there are no original artists working on the project to share the knowledge.

With the Diamond Dash iOS style guides, the new employees get to know the basic information about the game. They will see how it looks like and learn about different key features of the visual style. The style guides, while sharing knowledge, also describe the ways of the visual style and effects are implemented the most efficient way.

4.1.2 Communication within the Team

In the Diamond Dash iOS team there are artists, front-end and back-end developers, product managers and designers. New features are implemented in the game all the time. The product managers or game designers usually design them. If the feature requires graphics, the task is then forwarded to the artists. Artists will provide mock-ups, which are test images for new features in full scale. The product managers and designers then give their feedback. After some iteration the mock-ups will be cut down into needed assets and handed to the programmers to implement.

When saving out the assets, sometimes it is difficult to tell if an asset is already used in the game and in which resolutions. Let us say a new artist joins the team and makes a mock-up of a new screen to the game. The assets have to be exported for the programmers. The artist has not been in the team for long enough to know whether the assets in the mock-up are already in the game or not. Saving them out in all resolutions takes some time and it is always better to use assets that are already in the build. Using the existing assets will not increase the build size of the game. In other words, it does not make playing slower or the game crash due to a heavy memory usage. This is a matter of asking the developers. They can see in the current version whether some assets are used or not.
4.1.3 Server Folder Structure

The company server is very important in storing old designs and sharing the new assets from artists to programmers and product managers. This is an important part of the workflow in the team. Mock-ups and designs can be compared to new ones when deciding which design works the best. Going back to old designs can be useful. Some of them have good design ideas.

The server folder structure should be straightforward. It should be simple enough for everyone to know where to look at when trying to find something particular. Team members should be able to find what they are looking for without any problems.

The Diamond Dash iOS folders have been quite illogical and messy. It has been difficult to find all the source files and necessary assets to work on mock-ups. Many of the source files are in .FLA files because the mobile version has used a lot of assets from Diamond Dash on Facebook, done in Adobe Flash.

4.1.4 Communicating and Coordinating External Teams

The style guide can also be a good tool when doing outsourcing. An external developer has ported Diamond Dash for Android. The game existed already as a Flash and iOS version. The external team created the game for the Android platform, carefully following the original version. Outsourcing a published product can be a necessary step when there are not enough teams to handle all the different platforms and versions of the game. The responsibility of the product’s decency and quality is ultimately in the hands of product’s owner. They need to coordinate the external teams and there can be communication problems.

A lot of those problems can be avoided. A style guide covers some main things. It also helps to coordinate the external team’s artists. If they do not have access to the in-house servers, it should be easier for the artists in-house to find all those assets and source files. Bringing a mobile game to a new smartphone or tablet is art-wise mainly finding and resizing assets to match the right resolution. There can be some restrictions and
difficulties with implementing animations. That depends on the platform’s requirements and restrictions as well as software.

4.1.5 Sharing the Know-How

Diamond Dash is a successful mobile game. Wooga earns about 50% of their revenue from mobile games and they will continue to bring their games to a broader audience (Wooga, 2013). The new games can take advantage of Diamond Dash’s success. It is smart to share the knowledge of how the game is developed, enhanced and polished since its launch.

The Diamond Dash style guide shares the main features of its graphical UI and what kind of parts it is built of. It also describes the way of handling assets and updated, improved folder structure to make artists’ and developers’ work smoother. I believe knowing these facts will help new mobile developer teams to improve their efficiency and teamwork.

4.2 Visual Alignment

Diamond Dash should look consistent and recognizable across different iOS devices. It is a fact that previous versions on iPhones and iPads looked different. Because of the style guide, these differences have been taken more under consideration and improvement. The style guides also describe how visual elements are built, like the exact colors, fonts and UI frames. When following these directions, the versions are more likely going to be visually recognized as the same game.

When taking a look at the main menu of Diamond Dash, some major differences can be noticed. The iPhone version has a really limited space to offer. The main menu shows only the most necessary things: in-game currencies, lives, player’s placement in the weekly tournament and buttons for play and settings (see picture 6). On the other hand, iPad has much more space on the screen and it is horizontal, unlike the portrait screen iPhone (see picture 7).
Diamond Dash’s iPad main menu, as shown in picture 7, has decorative elements on the screen and has slightly different colors in it. There is for example a pillar on the right edge of the screen. Some decorations can be found in the weekly tournament frame. These decorations cannot be found in the iPhone version at all.

4.2.1 Case: Diamond Dash iPad

The main menu on iPhone and iPad should look like the same game. To make both versions look coherent, the decorations were removed and the iPhone style was followed in the iPad design. The style guides were then created on the base of the new iPad main menu design.

![Picture 6. iPhone Main Menu UI Design.](image-url)
As a part of the style guide, I provided a redesign of the iPad main menu. This should align both versions visually and make it more distinguishable. It follows the looks of the iPhone version but still utilizes all the space iPad screen resolution can offer. The colors are also the same as in the iPhone version.
5 PLANNING THE DIAMOND DASH iOS STYLE GUIDE

5.1 Planning the Style Guide

The style guide’s planning started with thinking about the content and the reasons why it was still needed so late after its launch. This was an important phase for creating a project schedule and what was important to cover.

Initially the style guide was divided into four separate documents. There were separate versions for iPad, iPad Mini, iPhone 4 and iPhone 5. Later in the project it got clear to me that it did not make any sense to create so many documents. I came to the conclusion of having two documents. One explains the iPad version and the other iPhone. I decided to include one page of information about iPad Mini in the iPad style guide. Also iPhone 5 got its own page in the iPhone style guide. This division makes more sense since there is not so much difference between iPhone 4 and iPhone 5.

5.1.1 Asking Advice from Experts

What a game style guide should include has to be looked at on a case-by-case basis. The purposes and needs can differ. I asked the team’s product manager Al Sinoy to specify why they would like to have a style guide for Diamond Dash iOS. He thought that they should have clear visual guidelines to make the game “pixel perfect”. He also wished for a document of the game, describing how it is visually built.

Since there was an expert available, I asked Samuli Snellman, an art lead in another team, for advice. We had a discussion where he explained what his experiences about game style guides are, having done some himself. Diamond Dash is a different case since it is already released. I created a draft of content and sent that to him for feedback.

To research the topic more from the game artist point of view, I sent out interview questions to other Wooga artists. Their expertise was valuable information and widened my understanding of style guides in games. All of the artists had a quite similar opinion to what a style guide is and what it is for.
5.1.2 What Should the Style Guide Cover?

Creating the content draft was one of the first steps in creating the style guide. Following is a rough list of what I had as a draft for the style guide document.

1) Colors, color palette
2) Fonts
   - colors
   - styles
   - localization
3) UI
   - transitions, animations, effects
   - HUD
   - frames, boxes
   - pop-ups
   - buttons, button styles
   - icons, logo
4) Character
   - where does he appear and how?
   - when to use, where to add?
5) Assets
   - where are they and how you should work with them?
   - optimizing and re-using assets to reduce build size
   - naming the assets
   - how does the folder structure work?

After getting feedback to these contents, I added and modified some parts to correspond better to the wanted result. In the feedback it was mentioned for example that the animations could be explained more in detail. Also it was wished by the product management that there would be separate pages explaining the differences between platforms in the main menu and gameplay screens. In the final version there are more topics added. Also the order of the topics in the contents changed a lot during the process. The final and iterated style guide contents look like this:
Next in the process of creating the style guide was designing the layout. First I made some sketches with pen and paper to create a visual structure. There I defined what the main things in the layout are. I came up with three things: header, content and footer.

In the header, the logo was important in creating the feel of Diamond Dash iOS in the style guide. Although in the first sketches I was thinking about adding the icon instead of the logo. Also mentioning the platform was crucial in clearly dividing the two different style guides. The page number was in the upper right corner. I later changed its place to the footer of the page in the bottom right corner.

Right below the header there was the title of the page. Later I moved that to the header to leave more space to the content. The content is in the middle of the page and covers most of it. It is divided into two columns to make it more readable already in the early sketches.
I started working on the style guide in Photoshop. The pages share the same basic visual style and structure. Text and pictures can be then added accordingly to the right topic. The title is placed to the upper left corner of the page. On the right side, there is the logo of the game and a text, either iPad or iPhone, depending of the version. There is a background layer on the top of the screen to highlight the importance of these elements.

A better idea would have been to start working on the style guide in Adobe InDesign. It felt to me like a natural way of starting to flesh out the idea and sketches in Photoshop. The previous style guide for Diamond Dash iPad was also done in Photoshop. I went with the easy way and did not think about the whole picture. This caused me some inconveniences later in the process. These problems are discussed in the Thesis later on.

As seen on the picture 10, the content area has a grey background and is divided in two columns. The structure is clear and makes it easier to perceive with a fast glance. The subheadings are highlighted with a special font style, which draws the attention to them. The style is used in the game. It is simple to view the main things on the page by taking a quick look to the headings. The content text is written in small sections to make it fast and simple to understand.
PICTURE 10. Layout structure of the style guide.
6 CREATING THE DIAMOND DASH iOS STYLE GUIDE

6.1 Implementing the Plan

The initial plan was different from the final plan and changes had to be made throughout the process. It was a challenging task to look at the style guide of all the points of view. I concentrated to the content and how it is presented. The content should be understandable and clear to the reader. Product Manager Al Sinoy noticed things like how to present numbers within the text better and the content should be in a different order. The Game Artist Paul Chambers also pointed out some missing topics, like advanced information about animation in the game.

After some feedback I changed the order of the contents. It felt more logical to the project manager of Diamond Dash iOS to have the icons, logo and character explained before going to UI-related topics. He also wished for a couple of pages to compare the iPhone and iPad versions’ Main Menu and Gameplay screens directly. I had thought the two documents would do exactly this but adding the pages makes it very clear that readers understand the differences in designs between the devices.

The original plan was to create four different style guides. iPad is not too much different from iPad Mini and iPhone 4 from iPhone 5. I thought it made more sense to add iPad Mini and iPhone 5 as an addition to iPad and iPhone style guides rather than creating an own style guide for them, like I had planned originally. Both of the style guides include almost the same information. They are using the same font styles, icon, buttons and frames, to name a few. The information that differs is about the UI in the main menu for example; how the buttons are placed and how the screen’s space is divided overall.

6.1.1 Color Palette

This is the first page in the style guide. It covers information about the colors used in Diamond Dash iOS. To keep the style of the game consistent, the same colors need to be used in designs.
The colors define the overall look and feel of the game. That is the reason why they should be explained first in the style guide. Seeing the colors out of their context might help to create an overview of the feel of the game. I provided the main colors of the UI and the gameplay in the color palette. I think only these colors are relevant to mention in the style guide.

I think it is important to have the hexadecimal (HEX) codes also included. HEX codes are usually used with HTML but they are used in graphic design as well. The HEX code combination tells the values of red, green and blue. (w3schools, 2013) It is useful to have the codes of the most important colors in the style guide. Programmers can quickly see whether they have the right color since it is simple to copy and paste. This should also make sure all the different versions of the game have the same color hues.

For artists it is easy to get the right colors in Photoshop or Illustrator from existing mock-ups. It is more accurate to use the code since it is safe and more accurate to get the exact color.
6.1.2 Fonts

The main font that is used in Diamond Dash iOS is called Marker Felt wide. I decided to show examples of the main cases how the font is used (see picture 8). There are several ways how it is used in the game. The header, for example, can be dark brown in a lighter background. In some cases, it is also white with a dark brown stroke. In my opinion, the header should be the same in all of those different screens to make the game more visually aligned.

I introduced a way to make the headers more consistent. There are mainly two ways of designing pop-up window headers in Diamond Dash. One way is having white text on top of the screen, out of the frame. The other one has the white text inside the frame with a dark brown outline, which looks much more powerful. As a notice in the text, I advised that the latter header style should be used later on, because it looks better. Also it should be kept in mind that the background is usually light and the text should be clearly readable.

To the team this made sense as well. I introduced it to the product managers and they thought it was a good way to go in the future. One very important reason behind the style guide was to make the visual style more consistent. Showing the wanted style in the style guide ensures that the product will not go to the unwanted direction.

Changing all the header style was my own idea. It was great to get the full ownership of the style guide and my recommendations about the visual style in it. I could not make up new things. It was rather enhancing the look and keeping it more consistent with the elements that are already in it.
6.1.3 Icons and Logo

The icons and logo are an important part of the game and its visual appearance. The icon in the App Store can be the first image of the game. It has to be appealing, attractive and clear even in small sizes. This is some basic information all the people working with Diamond Dash should know.

The style guide shortly introduces the logo and the icons of Diamond Dash iOS. It explains where they are used and how they should be worked with, showing the existing versions of the icons and logo.
6.1.4 Character

Many successful games are based on a strong character or characters. For example Super Mario Brothers or Angry Birds are known for their characters. The characters are recognizable and memorable. They have even conquered other industries and merchandise like toys are sold for dedicated fans. This is a part of branding the game and make it visible to new users.

Even though the character in Diamond Dash does not appear in the gameplay and is not a part of the game per se, he is still important to the game’s look and feel. It might be that the game could work on its own without a character.

The main character in Diamond Dash is the panda. He appears every once in a while when there are for example new tutorials, events and such. He is used as a so called “graphic candy” to make the UI look more appealing.
In the style guide I want to let the reader know, where the panda can be used to create a nicer feel to the game. I provided some basic examples where the panda is usually placed. The panda often looks really happy but he can also be used for negative feelings. For example, if there is a connection error the panda looks sad because you cannot connect to compete with your friends.

![Character page](image)

PICTURE 10. Character page.

### 6.1.5 UI – Main Menu

In the UI Main Menu page the screen is explained in small understandable pieces. It does not explain why the parts are placed the way they are but rather provides an overview of them.

The Main Menu is visible all the time. It provides a lot of necessary information like placement in the Weekly Tournament, experience points, remaining lives and currencies. It is also the gateway to the game itself. The structure of the Main Menu is
important. It should be simple for the player. The fewer clicks the better. There should be no chance of them getting frustrated and leaving the game because of the UI.

I ended up using the white instructional lines when pointing to different parts of the UI. They point out the parts of the screen that are explained in the white boxes. That way I did not have to cover anything important under the boxes. I could place the boxes around the image on the background of the style guide page.

PICTURE 11. Main Menu page for the iPad.

6.1.6 iPhone vs. iPad – Main Menu

This page along with “iPhone vs. iPad – Gameplay” page was added later in the process. It is there to compare the differences and similarities between the devices on the main menu screen.

Main menu screen includes the Weekly Tournament, which is an important part of the game motivating players to beat their friends’ scores. It is displayed almost the same
way on both devices. Also the currencies, experience points and lives are shown the same way, on top of the screen. The buttons are placed on the bottom of the screen.

The main difference of the two game versions is that the iPhone version is in portrait and the iPad version horizontal. I wanted the reader to understand that this is crucial when thinking about the design of the screens. There is a lot more space in the screen of the iPad version, while iPhone is suffering from rather narrow space. Smaller screens bring a lot of challenges to the design process.

![Comparison of iPhone and iPad Main Menus](Image)

**PICTURE 12.** Comparing iPhone and iPad Main Menus page.

### 6.1.7 UI – Gameplay

The Gameplay page is one of the most essential parts of the style guide, among the Main Menu. It is the screen the players want to see. The style guide page shows how it is aligned. The gem grid size, magic fire animation effect, the timer, boost icons and the top of the screen with diamond boost, points and pause button are all explained briefly. The page gives a short overall view to the look of Diamond Dash’s gameplay screen.
It is essential to show the in-game part of the game in the style guide. It is not the part of the style guide to explain how the game is played, that part is not covered. Instead, it explains how the gameplay looks and feels like. Sharing the knowledge of the game’s look, UI structure and effects used in it is important in the Gameplay screen.


6.1.8 iPhone vs. iPad – Gameplay

Alike the comparing Main Menu page, the Gameplay page was initially not in the content plan. It was added later due to feedback. This page compares both iPhone and iPad Gameplay screens and points out the main differences between them.

It is useful to see the main differences and similarities in one page. It makes it easier to really understand how the smaller screen affects what you can display in the game. It is an interesting design choice to put 7 x 8 gems in the iPhone gameplay area and 10 x 9 in the iPad and the team members should know about that. It is a good realization when
thinking about any polishing or updates to the gameplay screen in the future. The differences and similarities should be taken into account when designing any changes to the game.

PICTURE 14. Comparing iPhone and iPad Gameplays page.

6.1.9 UI – Frames and Pop-ups

The UI – Frames and Pop-ups page explains the basics of using frames in the game. There are two main frames in the UI that will be needed: the Weekly Tournament frame and the main frame. The Weekly Tournament frame is used to cover the Weekly Tournament while the main frame is the frame for every pop-up and window. In the iPad version the Gameplay screen also has a frame for the gameplay area. iPhone does not have this due to the lack of space on the screen.

Team members should know how the frames are used in Diamond Dash. To experienced Diamond Dash team members it is clear but new people might find it confusing or not important. They can be stretched programmatically to the wanted size,
which does not increase the build size. New team members should be aware that the frame does not have to be provided as an asset every time it is used in a mock-up. The button attached to the frame is used mainly in the iPhone version to save space. I added that to the style guide because I think it is a real design challenge to design new ways of saving space in the iPhone screen.

6.1.10 UI – Buttons

This page, as seen in the picture 16, is a collection of buttons that appear in the game. There are also examples how the buttons look like with the icon or text on them. The buttons are always blank as assets, even though in the mock-ups they have text. Due to localization, the text is always added later with code.

In this page I collected all the existing button templates there are in the game. There are still a few buttons in an old graphical style in the game. I wanted to leave that one out to make sure from now on that it would not be used as an asset anymore. The current
button style would be much easier to reproduce programmatically than the old one. That way the artists would not have to always deliver the button as an asset with the mock-up. There will be buttons in new sizes. It would be extremely simple to let the developers know the resolutions of the button and they would program it in the game rather than always adding a separate button.

PICTURE 16. Buttons page.

6.1.11 Animations, Effects

The Animations and Effects page, as shown in picture 17, is all about how the dashy feel of Diamond Dash and how that is created in-game. It includes information how the animations were before and how they have been improved. There are more effective and advanced ways to run the animations. The second page, picture 18, explains the basics about those alternative methods.

The animations and effects are an important part of the gameplay. They enhance the fast-paced action feel and make the game feel like there is a lot going on. Therefore,
they should be covered in the style guide. Especially when thinking about polishing the layout, one could think about the effects like transitions. At the moment the usual transition from a screen to another is a flip. The part that changes is flipped either clockwise or counter clockwise.

![Animations and Effects](image)

PICTURE 17. Animations and Effects page.

### 6.1.12 Advanced Animation

After discussing with the team’s game artist, Paul Chambers, it became clear that some changes should be made in the animation part of the style guide. In Diamond Dash, there are a couple of ways to handle animations. Previously there were only 2D sprites with .PNG images. Instead of only sprites, they had also procedural animation and particle animation. The particle animations can also have shaders to make them more colorful and randomized.

It was important to explain these differences in the style guide. Even though they are a bit more advanced ways to implement animations in the game, they are essential in
cutting down the build size. With these methods, there are only a few images to run the animation with. Also when they are done right they will make the game run smoother as the animations are lighter to play.

![Advanced Animation](image)

**6.1.13 Folder Structure**

When starting at a new company, new team or a new work environment in the games industry, quite many things can be new. Even teams within one company can do things differently. One important way to share files between the team members is the file server. In Diamond Dash iOS team it is a way to share new designs and archive old ones.

Folder structure should be clear to all of the server users. In the team, it has been just a place where to put assets and other graphic files when they are done. It has been hard to locate source files, especially because the roots of the iOS version lay in Flash files. As a part of this thesis, I decided to make it easier for the new team members to navigate
through the server. With the product manager Al Sinoy and game artist Paul Chambers we planned a way to keep the folder structure clean and structured.

The developers also accepted this plan. To them it made sense when looking for the needed new assets.

![Folder Structure](image)

**Folder Structure**

**Example Folder and Contents**

**2013-02-20_v3.1_New Design**
- `_Assets`
  - exampleAssetiPad@2x.png
  - exampleAssetiPad.png
- `_FinalMock`
  - newDesigniPad3.png
- `_DraftMock`
  - newDesigniPad1.png
  - newDesigniPad2.png
  - newDesigniPad3.png
- `WorkFiles`
  - newDesigniPad.ai
  - newDesigniPad.psd

PICTURE 19. Folder Structure page.

### 6.1.14 Assets

The assets are one of the most important things in the style guide. Using the assets right is crucial. The game’s build size can be kept as minimal as possible by knowing what assets are already in use and therefore can be reused. It also reduces work spent on providing the assets to the programmers. The artist does not have to cut off everything and resize into four different resolutions.

It also makes work much easier if the assets are always in the known place and can be found easily. All the artists who get in touch with the project should know how the
folder structure works. That is why I think it should be explained either in the style guide or directly in the server in a document.

Of course the game is filled with all kinds of assets. Everything cannot be covered in the style guide. What should be covered in the style guide is defined by reuse value, permanence and importance of the asset.

![Assets](image)

**Assets**

Assets can be found in the file server under the _Assets folders. All the exported asset versions (iPhone and iPad) should be in the same folder. That way it’s easier for programmers to get all necessary files.

**Naming the assets correctly**

will make it easier to define which version it belongs to.

**File naming**

- **iPad Retina**
  - exampleAssetIpadmin2x.png
- **iPad**
  - exampleAssetIpadmin.png

PICTURE 20. Assets page.

### 6.1.15 iPad Mini / iPhone 5

The purpose of these additional pages, as seen in picture 21, was to describe the design differences between the devices. iPad compared to iPad Mini and iPhone 4 compared to iPhone 5. It is useful information since the devices are slightly different in resolution. The information about iPad Mini and iPhone 5 were then added as additional pages in the end of the style guides. One page to compare the devices was enough.
In the very first plan I was supposed to create a style guide for iPad Mini. It needed optimization since it is smaller than the iPad but bigger than the iPhone. I wanted to design an optimized version for iPad Mini and create a separate style guide for it. The idea was to rotate the Mini version in portrait like the iPhone and optimize the gameplay with reducing the amount of gems in the grid. This project was not needed, though. The team did not have interest to support another iOS platform with a different version.

PICTURE 21. iPad Mini page for the iPad version of the style guide.

The size of the screen can lead into differences in design. Especially in the iPhone 5 there is more space compared to iPhone 4. In Diamond Dash iOS, the new designs are still optimized for iPhone 4 by default since the majority of users still have that version of iPhone. Nevertheless, it should be kept in mind that the assets might need to be resized for a bigger screen. That means that they will also be bigger in file size. Though the difference is so small it will not affect the performance on the iPhone 5.
The following are resolutions of the iPhone devices supported:

iPhone 4 - 640 x 960
iPhone 5 - 640 x 1136

This can affect some of the assets, like backgrounds. They need to be bigger in height for the iPhone 5 since the screen is taller.

Since the majority of the users have the iPhone 4 and iPhone 4S, the game is designed for that resolution first. It is then adjusted accordingly for the iPhone 5.

PICTURE 21. iPhone 5 page for the iPhone version of the style guide.
7 LESSONS LEARNED

7.1 Feedback

The feedback from the Al Sinoy was good. He thought the style guide is a great tool when getting all team members aligned to the overall look and feel for Diamond Dash on iOS. It also includes detailed information about the game’s look, like fonts and UI. The style guide helps new members learn about these things fast. In the Diamond Dash iOS team, learning about the look and feel of the game rely on the team members’ ability to analyze it by themselves. Now the team can refer to the style guide whenever developing new features. It will help to keep them consistent.

Other teams at Wooga thought they could have use for styles guides. Especially some artists were interested in finding assets and source files in their team’s server. The order in the file server seems to be needed in other teams as well.

After the style guide was finished the team got a new member, Huel Fuchsberger, as a working student for product management joined the team. As a part of his first days in the company, he got to read the style guides as an introduction to Diamond Dash iOS. In his opinion, the style guide was a helpful to his process of understanding the game. It was also great feedback for me and the contents of the style guide. He had some detailed feedback of what he thought was unnecessary or should be added. I had forgotten to mention iPods completely in the style guide and he was the first one to mention about it.

7.2 The Importance of Feedback and Iteration

Iterating was a big part of the process in creating the Diamond Dash iOS style guides. After planning carefully the structure, I started creating content. The structure and the content changed many times throughout the process. I got some feedback from either product managers or game artists.
Iterating is important when creating something like a style guide. In the process you easily miss some points or facts. It is good to ask feedback. Others see the project from another perspective and can give useful notices on the work. Polishing, reorganizing and adding parts of the work were much easier with some constructive feedback. I was mainly looking at the style guide from an artist’s perspective, thinking about the visual look of it and how it is structured. People with experience about organizing content could then point out what makes more sense in the order of the topics.

7.2.1 Finding Resources

There is not much information of style guides for games. The industry experts like Art Leads have the knowledge and experience about style guides. There are no specific rules about them, no right or wrong way to create a style guide for a game. It depends a lot on the project.

I sent out a written interview to several game artists at Wooga. In this case, experience in the industry is more valuable than written. It appeared to be a good idea. One of the interviewees sent me style guides they have worked on. That was very useful since not many style guides can be found in the internet.

7.3 Software

When creating a .PDF document for presenting anything with a lot of images, I recommend using Adobe InDesign. The Diamond Dash iOS style guides were made in Adobe Photoshop, which was my choice because I am familiar with it. I did not think it through and it cost me precious time because of some problems. If I could start the project from scratch with this experience, I would use InDesign.

The first Diamond Dash iOS style guide was made in Photoshop as well. After taking a look at it, I started to work on Photoshop as well and did not think the process through. I actually knew you could create a .PDF with Photoshop but I did not know exactly how it works.
Photoshop is known for sure by all artists. Therefore I think it is still a good program to use when creating a style guide, even though it might get problematic. At least other artists will be able to make changes to the style guide later.

### 7.3.1 Problems in Creating a .PDF

Using Photoshop was partly a mistake that cost some time. When creating a .PDF file in Photoshop, the program only creates one page. It is a compressed version of all the layers and layer groups in the file. One layer group consisted of one page of style guide. What I wanted was to create a .PDF of every layer group.

Saving layer groups as .PNG files and compiling them into a .PDF made the end result very light in size. The team lead of Diamond Dash teams, Alexander Mamontov, pointed out that the text could not be marked and copied because the pages were compressed images. That was a real problem. Copying the text was crucial to get for example the color codes right.

### 7.3.2 Decreasing the File Size

.PDF files are meant to be compressed files and light to handle. Some more extra work had to be made in order to decrease the file size of the style guides. All pages were compressed .PSD files with the wanted layer group as the top layer. This made the end result a heavy file.

All the layers within the layer group in Photoshop can be flattened, except the text layers, to keep the text copy able. That way there is a background of the page with the needed images, then text on top of them separately. This makes the end result a bit lighter.

Another way is to create separate .PSD files by copying all layer groups to their own files. Then the .PDF files created from them would not include all the other pages in them. This makes the .PDF files smaller in size.
The quality of a .PDF file can always be decreased in order to make the file size smaller. I did not go to this direction because I wanted to keep the images in a good quality.
8 CONCLUSION

The project of making the style guides for iPad and iPhone versions of Diamond Dash was successful. The product managers Al Sinoy and Alexander Mamontov in the team thought it was useful for the team and Wooga’s new employees. The style guides cover a general overview on the game on different iOS devices and compares them. The team has been supportive and great during this process and helped me whenever I needed it. I am really thankful for that.

The style guides were found to be useful for other teams as well. Diamond Dash has been a successful game and other teams were interested how the game is done and what works well. Sharing the knowledge within the company was useful especially for new teams.

Working alongside with creating the style guide went well as a process. I got the full ownership and responsibility of the style guides as my own project. I was also balancing between working on the style guides and normal graphical work in the team. The work on Diamond Dash iOS art tasks did not distract me from working on the style guides and vice versa. There was time for both of them and everything got done.

I learned a lot about creating a style guide for a game. It usually is not work for interns but rather Art Leads and Senior Artists. I was proud to take this challenge and complete it with success. I even got to make some design decisions, for example with the header font style that should be inside the frame and not outside.

Due to this process of creating a style guide, I can list some important points about creating one. First of all it should be decided what the style guide is for. The need behind it specifies what it should cover. It is good to have a content plan or at least a draft. After achieving a clear view of the contents, a good idea would be then to start gathering contents. It includes either making the example images or taking screen shots and adding them. It depends on the fact if you are creating a style guide for a completely new game or showcasing an existing game like Diamond Dash.
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APPENDICES

Appendix 1. The Interview to Artists at Wooga. Resources for the style guide.

Hi!

Some of you know me already but anyway, I’m Emma Kiiski, a student in International Media Programme from Tampere University of Applied Sciences, Finland. I'm a Game Artist Intern in Diamond Dash iOS.
I’m writing my Bachelor’s Thesis about Style Guides in games and need your help! In this mail I have gathered some basic questions about style guides. Since there aren't so many books or other source material about style guides, I'm sending these questions out hoping I'd get some valuable information from you.
This is completely voluntary. But it would be a great help if you could answer to following questions. :)

1) Have you created a game style guide? Or participated in making one? What was the genre of the game?
2) What is a style guide in your opinion?
3) What is a style guide’s purpose?
4) Do you give me permission to use your answers as reference material and direct quotes in my Bachelor’s Thesis?

I thank you for your time and effort! My apologies if this mail caused any inconvenience.

Sincerely,
Emma
Appendix 2. Interview Answers. Resources for the style guide.

Yo,

I have made several style guides for different genres and had to use style guides from franchises. Had a style guide for Championship Manager on iOS and PSP, that was passed down by another company who made the PC game. I made a style guide for a Facebook game I was working on called Soccer Tycoon, and that style guide was used for re-skinning the game into a baseball game as well to cut down on pre production time. I also was making a style guide for a word based iOS game that I was prototyping at my previous job, it is called Idol Words.

A style guide is an artist's instruction manual that will be used to keep the look and the feel of a game consistent.

For me a style guide comes after the mood board stage of pre production, when stylistic choices have been made regarding theme's, characters and colour palettes. I use them to cut down on development time of new features, so there isn't as much debating on the style of a new screen or how a button or icon should look.

If there's anything there that you can use, you have my permission to use it :-P

Paul Chambers
Hi Emma,

1. I have worked on more than one game design document which included chapters that can be seen as a style guide. For Pearl's Peril I just made some A4's that were printed out and pinned to the wall.
All games were Hidden Object games.

2. Having studied illustration, I know that a style guide is related to the housestyle of companies. It is a document with guidelines regarding the text and design of company materials such as folders, websites etc. I guess in the game industry a style guide is something else, more like a design bible.

3. The purpose of a style guide is to provide consistency of all published materials. In the game industry a style guide will be some document describing the style and atmosphere of the game.

4. Yes.

Cheers,

Victor van Schagen
Hey Emma,

I’ve designed a style guide for Monster World Flash. See the attached pdf-file. It should help new artists to get used to the art, technic and design of the game. In principle, you don’t really need a style guide, if you make a strong art direction. When I started in MW there were nothing like this. There was no artist left who was from the early beginning on the game. Therefore my first interfaces, popups and items I’ve designed, didn’t really fit to the style of the game. They were different from that was the users are accustomed and liked. By the time I found out what is typical for that game. Thus I’ve accumulated a lot of detailed knowledge and before I started on a new game I’d wrote it down as an introduction for new artists and as well for the PMs and every new member of the gameteam.

Cheers
Ingo Panke