

Contemporary Thai Design for Interface Design

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Abstract

This study presents contemporary Thai design for interface design to discover contemporary Thai design and design elements of Thainess in order to be used for contemporary Thai design of interface. The Guideline for contemporary Thai Design was created as a design guideline. In addition, design elements in Thai arts were analyzed using the Design Element: Mass and Space Principle to study form language components, form language features and perceptual structure in Thai arts. Characters were explored as the starting point for discovering the concept for contemporary Thai design in this study. In addition, this study presents the prototype design process and design analysis using design elements as a guideline and as an example of mobile application in contemporary Thai design at an international level.

Keywords: Contemporary Thai Design; Graphic Design; Interface Design

Introduction

At present, the work of design requires designing skills together with other disciplines to create beautiful and unique works to meet customer and/or user needs. For instance, pictures, movies, videos, paintings/audio visual aids and digital images allow design to come in various forms. Moreover, designers need to have the ability to apply/adjust their designs and styles to match the time, trend and technology. Interface design is the use of various disciplines for the design of applications. Interface design is part of the design displayed on screens, such as on computer or smartphone screens. Interface design in this study is a presentation of visual design which communicates with users through images. Apart from adjustment to meet user needs, design needs to be adjusted to match conditions and limitations according to the requirements of devices, such as screen size, platform, etc. Designers also need to take into account marketing and business plans, for example, the purpose of work, media, format and style as well as aesthetics to satisfy user needs and lifestyles.

The purposes of this study were to discover the process to achieve contemporary Thai design and to present the process used in this study 1) to discover the meaning of contemporary Thai design, 2) to create the design guideline for contemporary Thai design, and 3) to present an example of prototype design using key visual/Thai elements which represent contemporary Thai design. This study is divided into six steps as follows:

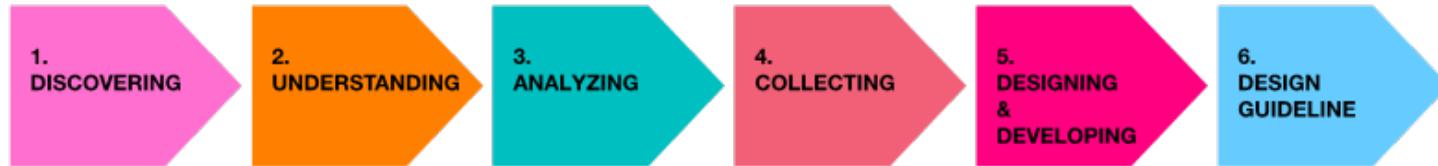


Figure 1 : design process

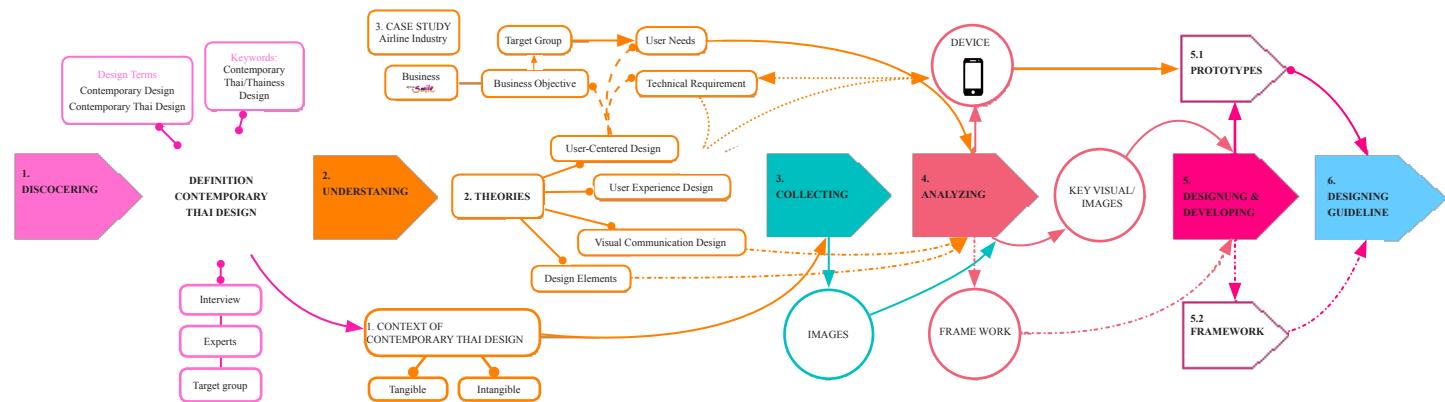


Figure 2: Research procedure

1. Discovering

This process is aimed at discovering the meaning of contemporary Thai design in order to create a definition, promote understanding and discover the common agreement on contemporary Thai design, as well as to equip designers with understanding about the meaning and framework of contemporary Thai design so they can apply the framework of contemporary Thai design in the design to represent Thainess. In discovering the meaning of contemporary Thai design, the keywords have been separated into contemporary, Thai and design. After the definitions of the three words were considered together with key terms of contemporary design, its definition is as follows:

The definition of “contemporary Thai design” is the combination(Bhirasri, 1968) between the graphic design and Thainess with the components of art, tradition, culture and values of Thainess(Pracha Suveeranon, 2011) which was originated from the ancient time to the present which aims to exhibit and/or portray Thai identity in various contexts such as media design for commercial which may gradually be changed by Thais’ values, eras, and technology.

Once the meaning and its framework were derived, other relevant topics were studied in order to gain understanding about different elements in creating the design. The next topic is “understanding.”

2. Understanding

The second stage is “Understanding.” The three following main issues needed to be understood:

2.1 Context of contemporary Thai design to discover tangible and intangible contexts and discover keywords which are different from the case study’s target group.

The survey results obtained from the target group illustrate both tangible and intangible data as follows:

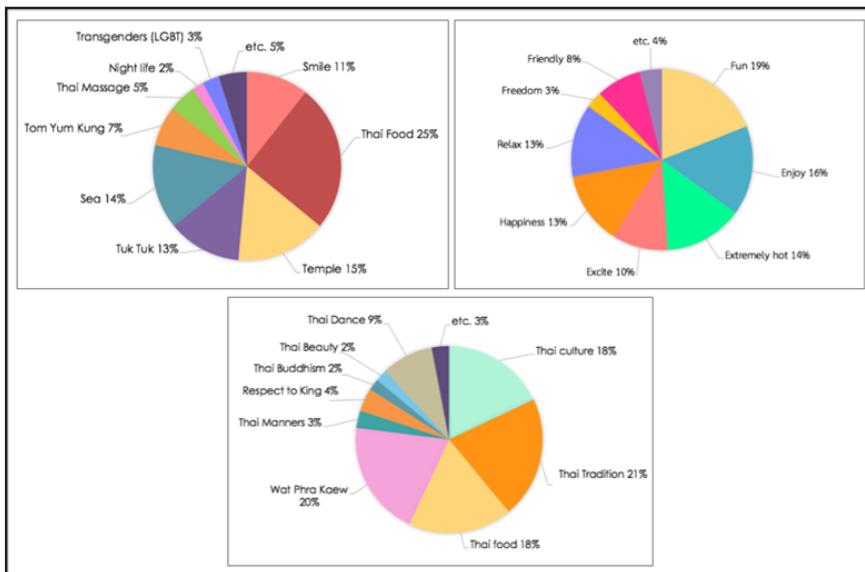


Figure 3: Survey results obtained from the target group to find out about Thailand and Thainess from the target group's opinions.

Based on the questions about attitudes and recollection about Thailand 1) When talking about Thailand, what do you think of? 2) When talking about Thailand, how do you feel? and 3) When talking about Thainess, what do you think of?, the answers are as follows:

2.1.1 For the question “When talking about Thailand, what do you think of?”, the top left pie chart illustrates the order of things the target group thought of when talking about Thailand, and issues relating to Thailand from their recollection from the most to the least as follows: 1) Thai food 2) Temple 3) Sea 4) TukTuk 5) Smile 6) Tom Yum Kung 7) Thai massage 8) Transgender 9) Night life, and other, respectively.

2.1.2 For the question “When talking about Thailand, how do you feel?,” the top right pie chart illustrates the order of feelings of the target group when talking about Thailand from their recollection as follows: 1) Fun 2) Enjoy 3) Extremely hot 4) Excite 5) Happiness 6) Relax 7) Freedom 8) Friendly, and other, respectively.

2.1.3 For the question “When talking about Thainess, what do you think of?,” The bottom pie chart illustrates the result as follows: 1) Thai tradition 2) Wat PhraKaew 3) Thai culture 4) Thai food 5) Thai dance 6) Respect to king 7) Thai manner 8) Thai Buddhism 9) Thai beauty, and other, respectively.

A study conducted by Eureka Consulting Co., Ltd. investigated the image of Thai tourism under the project “A study of the image of Thai tourism in the eyes of foreign tourists”. The number one reason for visiting Thailand was for cultural and historical tourism. “Temple of the Emerald Buddha” was voted as one of the most visited sites. Moreover, The Grand Palace inside the Temple of the Emerald Buddha was also voted as one of the ten most beautiful palaces in the world by the “CNN” website. The website also listed ten most visited palaces worldwide, and Bangkok’s gold-spired Grand Palace ranked number 3 with 8 million visitors per year. Thus, the Temple of the Emerald Buddha was selected as the site for collecting images to discover Thai elements for prototype design in Step 5.

2.2 Theories were classified into three parts as follows:

Part 1 To study and understand the user experience design principle used for prototype design.

Part 2 To study and understand Design Elements: Mass and Space Principle for analyzing design elements from images obtained from Step 3 “Collecting.”

Part3 To study and understand the case study ‘Thai Smile Airlines’ using the user centered design principles.

2.3 Case Study: Thai Smile Airlines adopted the user centered design principles to discover basic information in the design process.

3. Collecting

It is the process of using the context derived from the meaning of “contemporary Thai design” in Step 1 “Discovering”, and from the understanding of the context of contemporary Thai design in

Step 2 “Understanding”, to search for images representing Thainess. Moreover, additional search from the keywords “Thailand”, “Thai” and “Bangkok” was carried out to cover the overall possible experience of the target group and the data which could be searched from the internet. Then, key visual images were obtained for Step 5 “Designing and Developing.”

4. Analyzing

In Step 2 “Understanding”, “Design Elements: Mass and Space Theories (Dennis M. Puhalla, 2011) were studied. It is the principle of spatial design elements to explore form language components, form language features and perceptual structure.

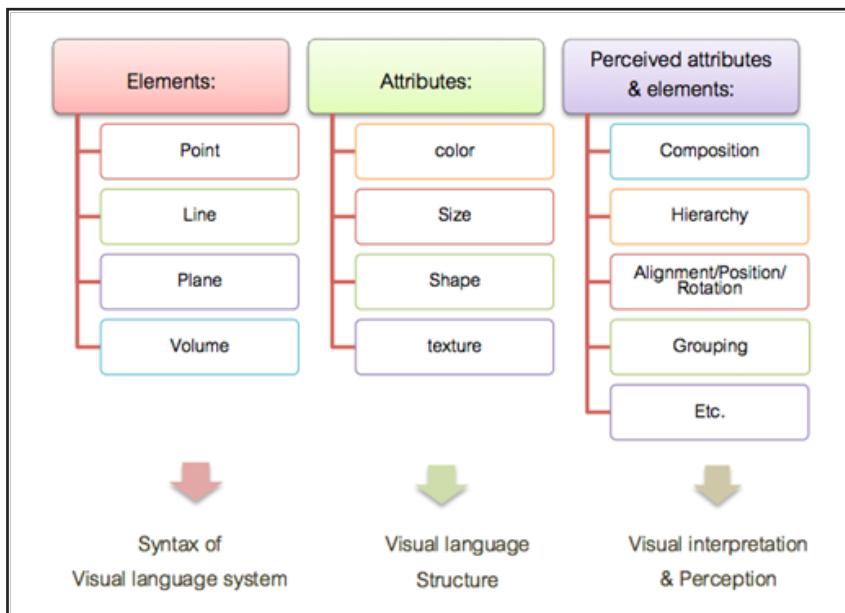


Figure 4: Design Elements: Mass and Space Principles (Dennis M. Puhalla, 2011)

This principle was used to discover elements of Thainess with universal art composition. This principle consists of three main elements as follows:

1) Mass/space elements are the basic elements and form language components in art and design. They consist of point, line, plane and volume.

2) Mass/space attributes are form language features. It is description through image attributes, physical attributes of elements and outstanding features through form, color and size, which are the attributes of displayed objects, which create meaning to form. Attributes are divided into four aspects, namely color, size, shape and texture.

3) Perceived mass/space elements and attributes are perceptual structure or structure defined from perception of elements and attributes. It is how humans perceive images and evaluate elements and attributes in design. It is an important factor leading to aesthetics in art and design.

The three elements, which are elements, attributes and perceptual structure can be called visual syntax, which is the system of arranging perception and defining visual forms to convey both direct and indirect meaning. Generally, words and images are of equal importance as images can represent words. Therefore, visual syntax can perform communicative act the same way as linguistic syntax used in human communication.

After images of places such as temples, churches, and palaces were analyzed against Design Elements: Mass and Space Table (Dennis M. Puhalla, 2011), it was found that Thai arts consist of elements, attributes and structure as follows:

1) **Point** is one of the important elements for writing Thai patterns. Points in Thai patterns are beautiful delicate. The use of points in Thai arts can be used as a starting point for other elements. They serve as secondary elements/centralized elements to connect and/or link elements. Points can be either small or big. However, in Thai arts, their locations are clearly set for each pattern. Points may be placed repeatedly to create patterns. In addition, each type of points has a specific location.

Table 1: design elements: point

Elements	Attributes	Perceived attributes and elements
Point Location-center/middle	Color: Gold/ silver Size: - Various sizes, able to used together to create a pattern Shape: - Flat 2 Dimensional surface, but also have 3D appearance - Regular polygon or Variable-sided polygons > Geometric shape - Closed curved figurations > Organic shape Texture: Depend on materials: gold, wood, metal, glass, glazed tile	✓ Hierarchy ✓ Orientation ✓ Alignment ✓ Position center ✓ Direction ✓ Proximity ✓ Sequence ✓ Connection ✓ Termination ✓ Axis ✓ Balance ✓ Symmetry ✓ Repetition ✓ Unity

2) **Line** is an important element, which consists of 1) Regular curved 2) Increasing curved (1/4 of ellipse or less) and 3) Variable curved (any number of 1. and/or 2. linked together). The lines used were short and long straight, slanting and curved lines. The mostly used ones are curved lines. Equal weight must be given throughout the lines, and weight is used to emphasize specific parts. Thai images mainly rely on drawing panel lines. The lines used represent movement and delicacy, and the lines can demonstrate form and shape. Thai pattern is the pattern made from natural inspiration, such as Ta Oi, Kampu, Luk Fak and Dok Bua, etc., or invented patterns based on belief and ideology, such as Kranok¹ Naree² Krabi³ and Khacha⁴

¹ Kranok is various patterns “Thai pattern”

² Naree is human images, which are classified into two types – male character and female character.

³ Krabi is inhuman beings, such as giants, monkeys, etc.

⁴ Khacha is animals which are classified into two types, namely 1) ordinary animals or those appear in the human world, such as elephants, horses, cows, birds, etc. and 2) Imaginary animals, such as Kinnaree, Raj Singha, etc.

Table 2 : design elements: line

Elements	Attributes	Perceived attributes and elements
Line	Color:	✓ Orientation:
Stroke:	Black / gold / silver / yellow	✓ Alignment
Straight, slanting and curved lines	Size: Thai pattern with equal lines and weight: heavy/light	✓ Position ✓ Direction – Diagonally/ Parallel / Fluctuation
1. Regular curved	Shape:	✓ Continuation
2. Increasing curved (1/4 of eclipse or less)	Flat 2 Dimensional surface	✓ Proximity
3. Variable curved (any number of 1. and / or 2. linked together)	- Regular polygon or Variable-sided polygons Geometric shape - Closed curved figurations Organic shape Texture: Gold / Silver / lacquer Depend on materials: gold, wood, metal, glass, glazed tile, etc.	> ✓ Sequence ✓ Connection ✓ Termination ✓ Balance ✓ Symmetry ✓ Rhythm

3) **Plane** in this case means image area. From Thai artists' creativity, unique forms/shapes have been invented, both in geometry and organic forms. The Thai arts do not have long space. Instead, Thai art composition uses a bird's eye view. The view from high to low positions can tell stories from left to right, to bottom or to top throughout the images, using rocks, trees, city walls, and Sintao or Kochakrit lines to separate the images.

Thai image color is in the form of flat color without light or shadow and perspective of color. Coloring must take into account rules and conditions as human figures on each image have the same look and manner. What make them different are body colors and accessories. For example, gold used for skin represents the Lord Buddha's image; white used for skin represents kings; and dark used for skin represents bad people, etc. Moreover, status and power are identified by additional decoration like adding organs. For instance, Ravana is a giant with 10 faces, 20 arms and

green body. Also, gold is used for decorating Thai pattern to give the sense of brightness.

Moreover, Thai mural paintings' perspective is in the form of parallel lines. Thus, near and far objects have the same size, yet depth of image can still be felt. Accuracy of ratio between forms is not taken into account. To highlight some parts of the image, other components will be deemphasized as Thai mural paintings focus on equipping the viewers with the understanding about the image's story – Who do what, where and with whom?

Table 3: design elements: plane

Elements	Attributes	Perceived attributes and elements
Plane	Color 1 color - Gold 2 color Red + Gold Black + Gold Blue + silver - Multicolor 3 colors 5 colors more than 5 Size: - Variety size Shape: Flat 2 Dimensional surface 1. Regular polygon or Variable-sided polygons > Geometric shape 2. Closed curved figurations > Organic shape 3. Mix 1. and 2. Texture: Depend on materials: gold, wood, metal, glass, glazed tile, etc.	✓ Hierarchy ✓ Orientation ✓ Alignment – in terms of Thai pattern ✓ Position ✓ Direction ✓ Proximity ✓ Rotation ✓ Sequence (only in terms of Thai mural painting and decorations) ✓ Connection ✓ Convergence ✓ Termination ✓ Balance ✓ Symmetry – Thai pattern ✓ Rhythm ✓ Grouping ✓ Repetition > pattern

4) **Volume** in Thai mural paintings is Flat / 2 Dimensional surface. Volume will not be given to the image, but flat painting will be used. Moreover, there is no use of gradation to create realistic image like the Western art.

In conclusion, Thai elements are used for creating new elements as mentioned above to produce works representing Thainess or filled with Thai characteristics in contemporary Thai design by classifying Thai art and design elements from the framework obtained from element classification using Design Element: Form and Space Principle. Thai elements or attributes were applied or redesigned in media from the traditional Thai art into Thai art which can be adjusted to match the time and trend. Afterwards, the User Centered Design principles were used for the analysis of “Case Study: Thai Smile Airway” to discover data of the case study and set requirements necessary for designing a prototype.

5. Designing and Developing

This study designed a prototype to illustrate the design process in order to present the work creating process as a design guideline. After the analysis to set up requirements, the stipulated requirements were compared against the chart whose classification is based on the media conditions.

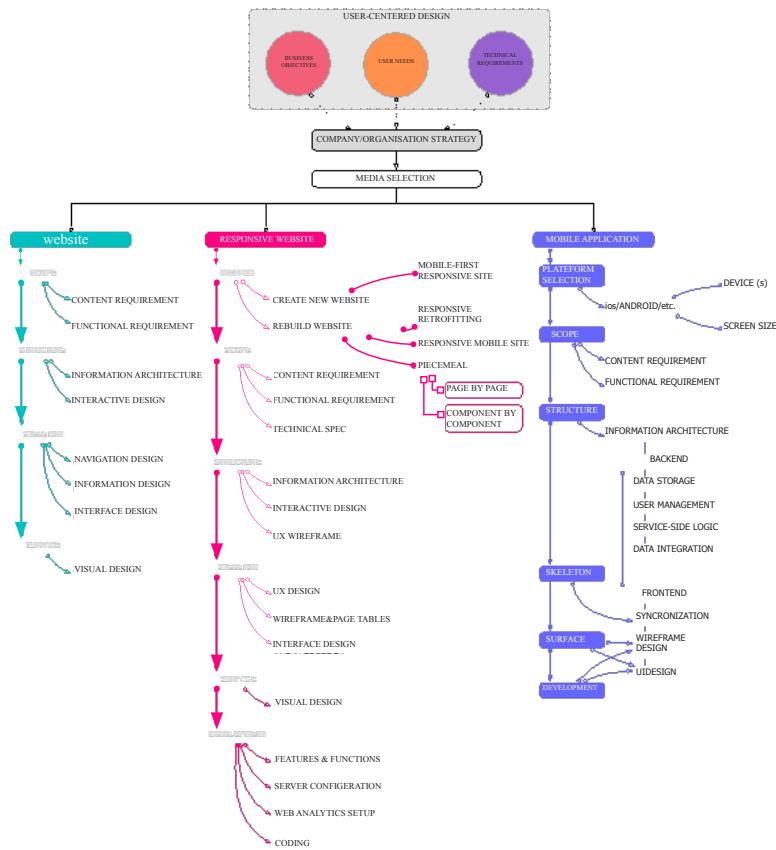


Figure 5: Consideration criteria for discovering the design process to match business objectives, user needs and technical requirements applied from the elements of user experience: user-centered design for the Web (Jesse James Garrett, 2011)

The above figure illustrates the design process, starting from company strategy, which involves three important factors, namely business objectives, user needs and technical requirements. Business objectives means the objectives of particular products or services, or what they want to present to users or company targets by considering user needs or what users want from the products, services or companies, for example, online orders, information update, product and service catalogues. Moreover, technical requirements need to be taken into account to identify the format and to realize limitations in website or application design as each of them has different design processes in terms of design and programming. After the purposes and objectives of use are identified, it comes to selection of media to suit the purposes and objectives of use. Each type of media has different advantages and disadvantages as follows:

1. **Website (Desktop Based)** consists of many pages linked under the same domain name. Each page displays data in the form of fonts, image, sound, video, etc. accessible through browser. The display file will be saved with an HTML or HTM extension. The advantages of creating website (desktop based) are that it is a basic website used by various organizations for public relations; it can be accessed easily; and users have usage experience. However, its disadvantage is that mobile device display is minimized to fit the screen, and the format or layout cannot be adjusted to match the screen size.

2. **Responsive Website Design (RWD)** is the design concept called “One Size Fits All” under the principle of 1 website: 1 URL: 1 source code. The website will change the display to suit the size of the web browser of a personal computer, tablet and smartphone. Moreover, this concept applies various disciplines in the design, including user interface design, user experience design, information architecture, adaptive web design, human-computer interaction, and web usability. Responsive Website Design focuses on enabling the website to completely support the operation on mobile phone browsers to facilitate users

and or ease of use. The key to mobile web design through the responsive web design is the understanding of web technology basics to be used for online data presentation on mobile devices, using the design techniques Fluid Grid⁵ , Flexible Images⁶ and CSS3 Media Queries. At present, responsive website creation is divided into four methods to suit the problems of each organization as follows:

2.1 Responsive Retrofitting is transformation of old desktop based websites into responsive websites. The advantage of responsive retrofitting is the fast web creation. Just add another file of CSS, the existing web can already support the responsive website. Moreover, the old website design can be kept for use. Thus, users don't need to adjust themselves or to learn how to use the new website. However, responsive retrofitting also has several disadvantages. Since responsive retrofitting aims to enable the existing website to run on mobile devices, some functions cannot be used, such as Navigation, Slider, etc. In addition, some devices might not support Media Query, so a responsive version cannot be found. Moreover, since desktop-based websites are composed of many components, the websites can be loaded slowly both on mobile phones and computers due to addition of coding to support responsive websites.

2.2 Responsive Mobile Site is the creation of a mobile site⁷ separately from the main website. Then, this mobile site is developed to be viewed on tablets and desktops. After it is complete, the old version can be deleted or kept. The advantage of responsive mobile site is the ability to reduce the size of the website by deleting unnecessary old elements on the desktop site. Moreover, the responsive site will not cause trouble to old users who access the site using a computer as the old website can still be used. However, the disadvantage

⁵ Relative grid design is the design which does not fix the size of the grid, but it will set the grid to match other items. For instance, the width is set in % or font-size is set for the unit of “em”, etc.

⁶ Setting of image sizes to match the size of display screens

⁷ Separation of website into another new version, which is different from the main website, and features are designed to suit mobile use.

is that since the mobile site is created separately from the main site, there might be problems with URL Redirect, SEO, etc.

2.3 Mobile-First Responsive Site is the creation of new sites in the form of Mobile-First (or Progressive Enhancement). It is the creation of a new site designed to support mobile first. Only important elements are focused for fast loading and it can be developed into desktop site in the future. The disadvantage of Mobile-First Responsive Website is that it takes more time to design and develop than other methods. The long process of design and development to suit the company, products or services, and the totally new design of interface might confuse users at the beginning.

2.4 Piecemeal is the transformation of old sites into responsive site. It is appropriate for some websites which cannot totally be redesigned due to branding, budget, etc. It can be classified into two types as follows:

2.4.1 Type 1 Page by Page Responsive is the creation responsive website page by page. The first page will be created to be responsive first, and then will be open for use. Meanwhile, the other pages still don't support the responsive feature. The advantage of Page by Page Responsive is that only popular page can be selected to be made responsive so the users will be gain the most benefits from responsive website immediately. Moreover, the experience from making the first responsive page can be adapted for other pages on the website. Also, it can be used fast without having to wait for the whole website to be completed. However, the disadvantage of Page by Page Responsive is lack of website usage continuity in the case where mobile users switch from the responsive page to other pages.

2.4.2 Type 2 PieceMeal – Component by Component is the creation of responsive websites by making each element on the ordinary website responsive. For instance, the header is made to be responsive first before moving on to the footer. The advantage of Component by Component is the gradual change of interface, which enables users to learn new website features bit by bit. However, the

disadvantage of Component by Component technique is that while it is not complete, users may be confused with some changed elements appeared on the old website.

3. **Mobile application** is the development of application for mobile devices. There are many operating systems developed for users. The popular applications are iOS and Android, so design application has been developed. The advantage of mobile application is that it can support the mobile screen very well. Also, there are necessary functions for use. Users can download and install the application on their own from App store. However, the disadvantage of mobile application is that the cost is high, and many platforms need to be created to cover and support users with different OS.

After a study of advantages and disadvantages to support the consideration on suitability of different elements for products, services or users (target group), the design process started.



Figure 6 : Interface design

These examples were presented to the public in the 4th Ph.D. Candidate (Design Art Program) Exhibition, Faculty of Decorative Arts,

Silpakorn University during March 17th-28th, 2014 @ The Gallery of Art and Design, Faculty of Decorative Arts, Silpakorn University, Wang Tha Pra. Based on the questionnaires on contemporary Thai design collected from both Thai and foreign attendees, the results are as follows:



Figure 7: interface design

Work No. 6 received the highest score, followed by No. 1 and 4 with the same score and the third rank is No. 3 and 5. Meanwhile, the fourth, fifth and sixth ranks are 2, 8 and 7, respectively.

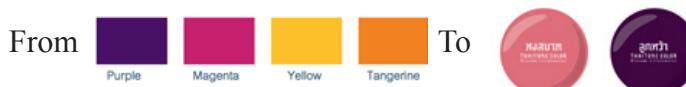
The researcher selected the elements illustrated in the above table for the design. Some parts of the design are similar to what is specified in the above table, while some are not. Also, use of colors was based on Corporate Identity (CI) and some were not, but relied on color match as in the above table to discover other possibilities for contemporary Thai design and to study the feasibility of color use in contemporary Thai design. The following is examples of designs together with their analysis.

Example 1



This design uses a Thai traditional floral mobile⁸ in Indra's palace style. The color match “pink/purple” has been changed. The colors were selected from the default colors in CI, but were adjusted to Thai colors⁹ which are Hong Chat and Luk Wa.

Figure 8: interface design prototype



Elements	Attributes	Perceived Attribute and element
Point	-	-
Line	-	-
Plane Icon	Color: 1 color – Pink on purple background Size: - Variety size Shape: Flat 2 Dimensional surface Closed curved figurations > Organic shape Texture: Derived from original image, which is Thai traditional floral patterns mobile in Indra's Palace style Materials: Fresh flowers - roses	✓ Alignment - center ✓ Position – The end of vertical line ✓ Number/density ✓ Balance ✓ Symmetry in the image pattern ✓ Tension ✓ Rhythm ✓ Grouping ✓ Repetition > Image decorative
Volume	-	-

⁸ Thai traditional floral mobile is made for decoration of buildings, venues and sacred items. It has a bouquet or bunch form created from small flowers strung together with threads and made into lines, patterns or nets in different patterns.

⁹ Thai color chart from the study of Pairoj Pittayamatee on The Analysis of Graphic Design Elements Reflecting Thai Identity.(Pairoj Pittayamatee, 2008)

6. Design Guideline

From the whole process, the design guideline was created for application design. A sample work was made on iOS to try designing a prototype. Moreover, the process can also be applied for design of other styles to communicate or represent race, art and culture.

Conclusion

In conclusion, this study presented principles, methods, and examples of contemporary Thai design. The researcher has adopted various principles to create processes, discover key visual as well as discover elements and images. Moreover, a survey was conducted to explore opinions on Thainess and Thailand. The target group of the company (a case study of Thai Smile Airline) was tourists. The popular tourist attractions among foreign tourists were selected, such as temples, Buddhist sanctuaries, and Thai mural paintings appeared in different places in Thailand. In addition, the contemporary Thai design framework was created for designers and people interested in contemporary Thai design to apply and develop their design to reflect Thainess.

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