



## **ASIA PACIFIC COLLEGE**

School of Computer Science and Information  
Technology

# **A RESEARCH ON MOBILE APPLICATION DESIGN**

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**Joshua Dimapilis**  
**Thom Doniña**  
**Kimberly Elizondo**  
**Erika Hidalgo**  
**Gino Gapay**  
**Jestine Gaoaen**  
**Nickolo Gonzales**

**IT 111**

**Ms. Rhea-Luz Valbuena**  
Professor

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## INTRODUCTION

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Together with the rising use of smart phones all over the world, the proliferation of *Mobile Applications* (or Mobile Apps), have also begun to increase. Mobile apps have slowly invaded the Information Technology world, and in line with this, the proponents of this study will be conducting a research about the Design of Mobile Applications. In this study, the team will also evaluate the *Social Constructionism* of the said Mobile apps. Its relevance to significant issues at status quo, the influences that drive an individual to design or develop an application, and the forces behind its inception to its implementation. In this study, the proponents will be identifying the key-players and their involvement in the development and the designing of Mobile apps.

To further the scale of this research, the team identified a specific premise. This premise discusses that in the design and development of mobile applications, several aspects of discourse are always to be considered. To fully identify the influences and to define the involvement of the actors in the construction of Mobile Applications, the team must further break down the elements of Mobile App Design to research relevant information and to gather evidences. These factors that the team arrived with are the following: (1) *Design*, which pertains to the mobile app's interface design (i.e. navigation, color schemes, fonts, etc.), (2) *Function*, which refers to the structure of the Mobile App (i.e. app language, platforms, features, etc.) and (3) *Trend*, which includes the involvement of the actors in the mobile apps industry, relevant issues to mobile app design (i.e. culture, power dynamics, influences) and the integration of mobile apps and its role with regard to CAMSS in the Philippines.

In line with the study, the team has come up with the following questions to be answered:

1. How does mobile application design revolutionize the way people live and how does it become an extension of a developer's / designer's self?
2. In developing mobile applications, how much of the developer / designer's preferences should they take in to consideration?

3. What triggers people with different backgrounds from the society to use mobile apps? How important is culture, influence and other social issues in designing applications?

## **BACKGROUND OF THE STUDY**

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The group gathered the data for their initial findings through the resources on the web relating to mobile design on applications. Each group member is assigned which category to focus on when looking for article that focuses on the trends, functions, and the design when making a mobile application. After finding one of these sites, a background of the author is then researched for credibility.

When the author proves to be credible for his past works, the article is then analyzed by the member who obtained the said research. This process is done with the other members of the group so that the team could share their findings with other members for any comments, and suggestions. Important notes that were in the articles are taken to be focused by the group; examples were factors that influenced on the designing and developing of a mobile application.

The methodology for this study is research and analysis. The proponents have included a Mobile App Analysis for this study. Therefore after evidences have been gathered for each aspect of Mobile App Design, the gathered evidences will be used to assess certain mobile applications developed by Filipinos. Part of the selection of these mobile apps, aside from their Filipino developers/designers-descent, is its social acceptance in the industry.

After the analysis, evaluation of the results are due. A separate section for the interpretation and analysis of the results is included in the study. This section should include a summary of the claims that may be derived from the said research. These claims will be separated in accordance to each research category (Design, Function and Trend), and will be represented by the data derived in the research findings section. This will be a culmination of all the results' outcomes and their possible implications to the study.

## SCOPE AND LIMITATIONS

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An objective of the study is to delve into the design of mobile applications with regard to the categories set by the team. From these categories, social constructions will be observed from the start of the development of mobile applications until the implementation. Key players or actors in the mobile app industry and the influences with regard to development of mobile applications will also be included in the study.

Actual interaction with the interviewee is one of the limitations of the study although the team will be able to derive and compare results from other teams' or researcher's studies.

## RESEARCH FINDINGS

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This section describes and enumerates the findings that the team obtained for the study, supported by the credible source of the evidence from which the claims were cited from. The claims are categorically separated based on Design, Function and Trend.

### Design

In the teams' research on the first category, it's important to include what influenced the developer's design. This influence maybe the trends found on some User Interface / User Experience (UI/UX) sites available on the internet. This research on *Design*, includes results / evidences about a mobile app's interface design (i.e. navigation, color schemes, fonts, etc.), the value of UI/UX to designers of mobile apps, the trends that designers consult on the internet, and procedures on how designers come up with their outputs.

- *In designing mobile apps, the **preferences** / **professional opinion** of various designers may differ, however the customer (target market, users)'s **requirements** should be taken into consideration*

The article discusses the problem that could be present whenever various designers are asked about what design is, and they arrive with various inconclusive and different answers. The Rochester Institute of Technology Professor, James Wondrack, believes that successful design implementation lies on taxonomy. He was able to impart this in his study (in verbatim): "*Stylistic*

*design helps to create a pleasing appearance to customers. By doing so, they are more likely to enjoy a product because of its aesthetic appeal.”* The author believes, that the first step in systematic design implementation is to have stylistic design, which conforms to what clients’ or customers’ think is pleasing.

Source:

- Wondrack, J. (2015, February 25). A Common Design Taxonomy. Retrieved from <http://uxmag.com/articles/a-common-design-taxonomy>
- Trends seen on the internet are **considered** by designers as **factors** for designing mobile applications

From the rise of responsive and minimalistic mobile apps during the year 2014, Wordpress affiliate, and Elegant Themes professional writer and digital publisher, Nathan Weller proposes in his article *Web Design Trends To Look Out For In 2015*, that certain trends in the designing of mobile apps are yet to thrive in the year 2015. He believes that some of these trends such as Microinteractions, Card designs, Ghost buttons and Personalized UX will be most evident in Web sites and Mobile apps alike. To help remedy the difficulty of envisioning the concepts for designers who use the blog as a basis for making interfaces, he gave examples such as (Apple, Tesla and Divi sites).

Source:

- Weller, N. B. (2014, September 17). Web Design Trends To Look Out For In 2015 | Elegant Themes Blog. Retrieved from <http://www.elegantthemes.com/blog/resources/web-design-trends-to-look-out-for-in-2015>
- Researching for the application’s **main purpose** in the field, is also **vital** in designing the UI and UX of the product

Example: **Lumosity** and *neuroscience*

The trend nowadays, with applications is that most users prefer having products / apps that provide them with what they want. Re-stating the words in verbatim, of Mr. Josh Tyson, Managing Editor of UX Magazine: *“These days, for a product to stand a chance in an overcrowded marketplace, it needs to serve a distinct need and serve that need in a way that rewards consumers.”* It is, in his belief, that the application Lumosity, was able to receive various awards, recognition and acclaim both from award-giving bodies in the IT industry and from its users, because of the research and the study that they have done to further the application’s design and functions. At present time, most of Lumosity’s competitors include other cognitive – game applications that personalize their ‘feel’ for each user, however – the years of study and research that the designers have given to the Lumosity app, cannot easily be trumped. “The initial two years of prototyping were essential because not only were we creating the foundation for a new science-based product, but we were also defining a new industry,” says Melissa Malski, a Public Relations Specialist at Lumosity. It is also in the author’s belief that like the brain app, Lumosity, *‘successful products are not overnight wins, but the culmination of years of work, research, and ideation.’* With this study, the proponents were able to come up with the conclusion that designers consider studies and research about the objectives of an application, in designing the mobile app’s UI and UX.

Tyson, J..(2015, February 19).If You Build it (Right) They Will Come Lessons in successful consumer products from the DfE awards. Retrieved from <http://uxmag.com/articles/if-you-build-it-right-they-will-come>

## **Function**

The team decided to consider the functional aspect of mobile applications because we see it as the structure of the application itself such as the programming languages used to develop the applications, the platform used (native, web-based or hybrid), the features and of course, the architecture of the application. The research with regard to the function category will include the important points that developers must consider in creating features, identify how user experiences affect the development of functionalities, the usability

of the mobile application and the involvement of developer's and user's perspective in providing an efficient and effective mobile application. The initial findings the team gathered in relation to functionality are as follows:

- ***There are certain features that the developer must consider in developing features of a mobile application.***

In an article entitled “*13 Must Have Features for your BusinessMobile App*” written by Scott Gerber, a serial entrepreneur and the founder of Young Entrepreneurial Council (YEC), he identified some features that are quite ideal for a mobile application particularly for a business. He gathered his results by asking a panel of successful young entrepreneurs the question “*Designing a mobile application for your small business? Name one must-have feature to make for a positive user experience.*” The team considered this article as a reference because we would like to make a comparison on how different kinds of people prefer their mobile applications to look like, such as business-oriented respondents for this one. Gerber consolidated the answers he obtained and came up with a list that contains the top answers.

One answer included in Gerber's list is **to keep the application simple**. This answer came from Jesse Davis of Appinions Inc. He said that it is more important to figure out first the basic things the users want and build those features and nothing else. For him as a user, he would rather use an app that lets him do what he wants in 15 seconds than a convoluted UX that lets him do things he have no interest in actually doing.

Another answer in the list is from George Mavromaras, of Mavro Inc. which is **to include analytics**. Not necessarily in a business application but one must be able to track and identify the user experience and actions and the analysis of the data gathered can be an encouraging tool for developer's to produce better updates.



One last sample answer from Gerber's list is to **prioritize speed** which came from Ben Lang, the cofounder of Map Me App. He said that it is very important that the application being developed is not slow. For him, it is a crucial part that the application you are developing does not make people wait around while the app loads.

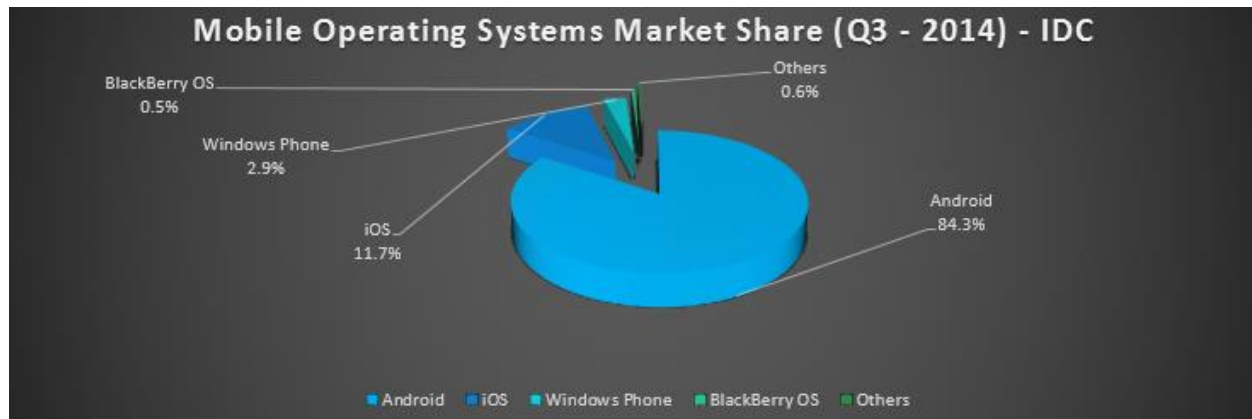
Source:

- Gerber, S. (2012, December 16). **13 Must-Have Features for Your Business' Mobile App**. Retrieved March 3, 2015, from <http://thenextweb.com/entrepreneur/2012/12/16/13-must-have-features-for-your-business-mobile-app/>

- **The dominance of Android OS in the worldwide smartphone market share.**

International Data Corporation (IDC) released an article discussing how the market shares of different smartphone OSes goes on the third quarter of the year 2014. According to the article, the Android operating system is taking the lion's share with almost 85% market shares. The iOS came in with 11.7%, followed by Windows Phone with 2.9% market share. BlackBerry OS on the other hand, took 0.5% market share and the remaining 0.6% goes to other existing operating systems.

These demographics can indicate an estimation of how many mobile application developers are into each of these platforms. For instance, since Android is continuing to dominate the smartphone industry, we can assume that there is also a large number of Android developers considering that it is also an open source OS. Furthermore, as the research goes on, the team will try to come up with more interpretation on how the industry and the social business influence the developers to develop new mobile applications and how they choose the platform they're into.



**Diagram 1.0 Mobile Operating Systems Global Market Share**

Source:

- IDC: Smartphone OS Market Share. (n.d.). Retrieved March 3, 2015, from <http://www.idc.com/prodserv/smartphone-os-market-share.jsp>

## Trend

The last category is Trend. The team deemed trend as one of the main aspects in designing a mobile application because people always follow what is 'in' as such that it is also the reason why people use mobile applications. The study for trends will include the involvement of the actors in the mobile apps industry, the integration of mobile apps and its role with regard to CAMSS in the Philippines and the relevant issues to mobile app design like culture, power dynamics, and influences. The following lists of ideas are the research findings for trend:

- ***Fitness and health applications is steadily becoming a trend***

An article from digitaltrends.com says that, 2014 is the year of Fitness and Health applications according to Google stats with a diet tracking application topping their charts. Other major mobile players are also into health apps wherein Google has Google Fit, Microsoft has Microsoft Health and Apple has Health application as well.

Aside from the existing health applications, young developers who compete in technology competitions are also into health application. As a matter of fact most of the entrants and the winners of Imagine Cup 2014 a global student technology competition hosted by Microsoft are health applications. The world champion even of the said completion is an anemia checker application called “Eyenaemia”.

The reason why people are into health and fitness applications definitely has various reasons. Maybe people are becoming more health conscious or perhaps because of the booming food industry if not it is possible that people just want to become like their celebrity idols.

Source:

- Boxall, Andy. (2014, December 11). **2014 is the year of health and fitness apps.** Retrieved from <http://www.digitaltrends.com/mobile/google-play-store-2014-most-downloaded-apps/>
- **Imagine Cup 2014 Winners.** (2014). Retrieved from [https://www.imaginecup.com/Custom/Index/2014Winners\\_Finals](https://www.imaginecup.com/Custom/Index/2014Winners_Finals)
- **Mobile applications are now a part of companies' digital strategies**

Everything happens online and the generation today does not even read magazines anymore, that is why even luxury brands is now moving onto the social media and digital advertising trying to balance their brand's prestige and exclusiveness risking their image.

*“The amount of times people actually go to a car dealership has diminished. By the time they get to the door all they really want to do is test drive. All the research, everything, happens online.”*

  - Laura Schwab, marketing director at Jaguar Land Rover

In the past luxury brands are reluctant in engaging with the social media as a part of their strategy and as of late these brands are starting to change and realizing the impact and the threat of the social media if they are not able to adapt with the constant change in the industry.

What drove these brands to design an application exclusive for the type of business that they have is the environment, if they cannot catch up with the trend their exclusivity can cause their downfall.

Source:

- Anderson, T..(2015, February 16).What does the rise of digital marketing mean for luxury brands?. Retrieved from <http://www.theguardian.com/marketing-luxury-goods-feb-15/2015/feb/16/digital-marketing-luxury-brands>
- Dubois, D..(2014, October 21).The “Social Media New Deal” for Luxury Brands. Retrieved from <http://knowledge.insead.edu/marketing-advertising/the-social-media-new-deal-for-luxury-brands-3649>
- **Incredible, world-changing software innovations often come from students.**

Major players like Microsoft, Google and Apple influences the boundless creativity of college students in coming up with world changing mobile applications. These major players are part of people’s daily lives just from using their product and services and knowing students who is practically in the centre of these giants are the ones who mostly engages with these said players.

Students are people uninfluenced by the restricting standards of the corporate world still, which is the main reason why they are the ones who can come up with world changing innovations fuelled up by the environment that they live in and the various competitions hosted by these giants like Imagine Cup per se that pushes them to dwell into mobile application development.

Computer Science graduate, Aisha Davis, who once took part in Imagine Cup during her college years, said that:

*“I wasn’t a 4.0 student, I just had a dream, I had a passion and I had a mentor,” Davis says. “People say dreams don’t come true. Microsoft was my dream company and I was your average Joe and I’m here now and I’m living my dream every day.”*

- The quote is an excerpt from an article “Voices: Do companies take college student app developers seriously?” in college.usatoday.com

Aisha’s dream to work for Microsoft is one of the reasons why she was into mobile application development today. Her statement can also be a reason for some of the college students of today and their involvement in mobile application development.

Source:

- Imagine Cup 2014 Winners. (2014). Retrieved from [https://www.imaginecup.com/Custom/Index/2014Winners\\_Finals](https://www.imaginecup.com/Custom/Index/2014Winners_Finals)
- Castillo, W. (2015, January 30). Voices: Do companies take college student app developers seriously?. Retrieved from <http://college.usatoday.com/2015/01/30/voices-do-companies-take-college-student-web-developers-seriously/>

## **ANALYSIS OF MOBILE APPLICATIONS**

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After obtaining the evidences for the research, the proponents have arrived with an analysis for Mobile apps created by Filipinos in the industry. These mobile apps include:

- Streetfood Tycoon
- TARA: Theft Apprehension and Asset Recovery
- Pugo
- Bulalord Xtreme

The mentioned applications were assessed with the research criteria (design, function and trend) for the benefit of having a thorough analysis of some of the Filipino mobile apps of the present.

Criteria	Streetfood Tycoon	TARA	Pugo and Bulalord
<b>DESIGN</b>	<ul style="list-style-type: none"> <li>Filipino culture is present in the whole game</li> <li>The UI is responsive, and may be considered as average, based on ratings</li> </ul>	<ul style="list-style-type: none"> <li>Design is simple and is geared towards functionality</li> </ul>	<ul style="list-style-type: none"> <li>Both incorporates designs similar to the app Flappy-bird</li> <li>There are some minor revisions in each app's U</li> </ul>
<b>FUNCTION</b>	<ul style="list-style-type: none"> <li>In some ways, their games may be considered as <i>'a rip off'</i> of food serving games from Y8.com</li> </ul>	<ul style="list-style-type: none"> <li>T A R A : Theft Apprehension and Asset Recovery</li> <li>If you activate the kill switch, the phone will scream <i>"Magnanakaw!"</i> non-stop.</li> <li>Creating an account is as simple as registering an email account</li> </ul>	<ul style="list-style-type: none"> <li>Pugo follows the same mechanic as Flappy Bird that lets you control a pink quail by tapping the screen to avoid obstacles. Bulalord Xtreme follows the same scheme as well</li> </ul>
<b>TREND</b>	<ul style="list-style-type: none"> <li>Kuyimobile, the app's developer and uploader – are embracing the industry of mobile games, by adding a theme of Filipino Pride in their app</li> <li>The basis of the app's functions are derived from Y8.com</li> </ul>	<ul style="list-style-type: none"> <li>Unfortunately, this app is only available for MyPhone users</li> <li>The culture of seeking solutions to everyday <i>problems</i> are being incorporated in this app</li> </ul>	<ul style="list-style-type: none"> <li>The "Bulalord Extreme" and "pugo" apps are clones from its original game "Flappy Bird" and based from news that became a trend in the Filipino Social Media/Community.</li> </ul>

**Table 1.0 Mobile Application Analysis**

## Mobile Application Sample Screenshots:



Image 1.1 Streetfood Tycoon at the Android App Store



Image 1.2 Streetfood Tycoon Interface





**Image 1.3 TARA Mobile App Poster**



**Image 1.4 Pugo Home Screen**



**Image 1.5 Pugo In-game Screenshot**



**Image 1.6 Bulalord Xtreme Screenshot**

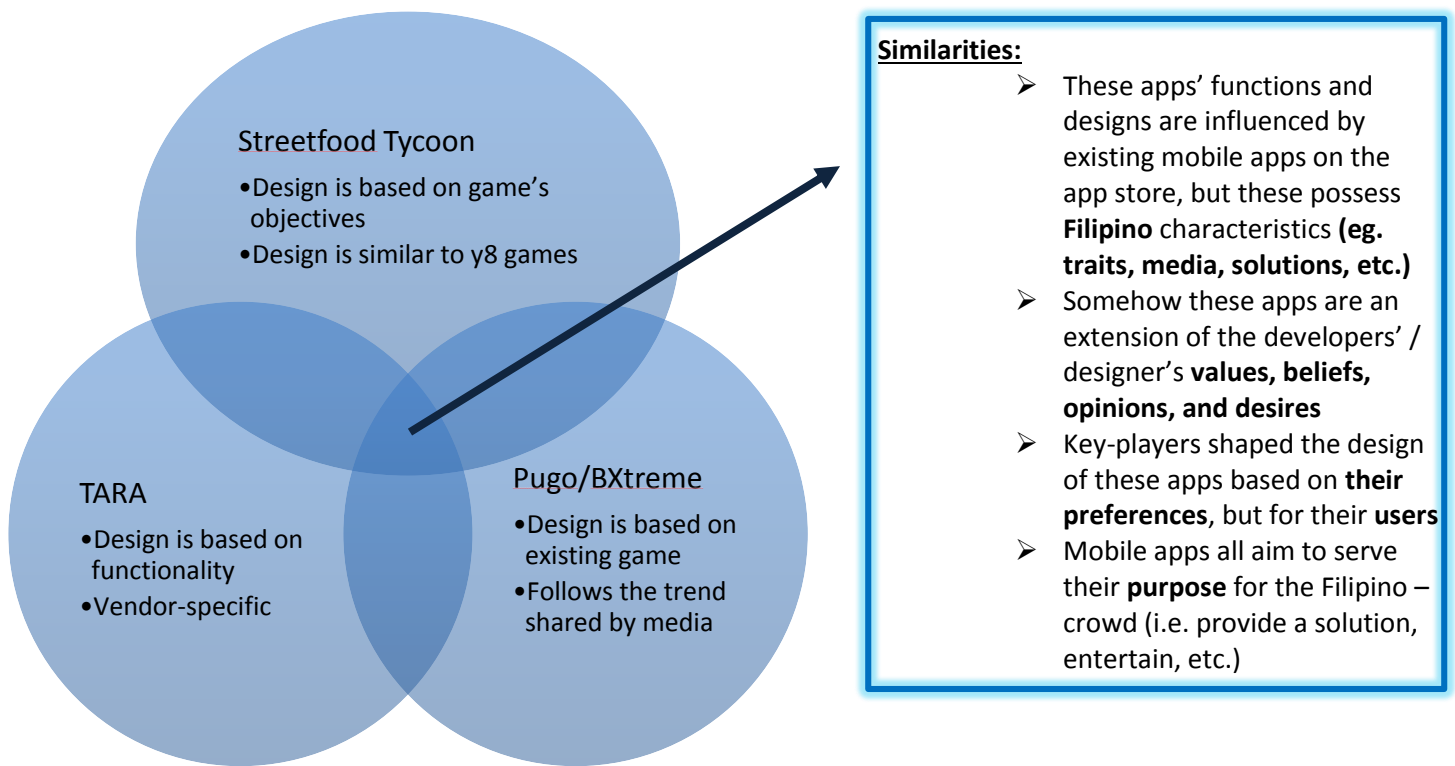
## **INTERPRETATION OF RESULTS**

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In line with the findings that have been obtained by the proponents, together with the Mobile App Analysis results, the following interpretations and claims have been derived:

The succeeding illustration is a visual representation of the obtained results for the Mobile App Analysis, the proponents were able to arrive with some similarities such as (1) the injection of *Filipino Characteristics*, to the concept of existing mobile apps, (2) the value of the developers / designers imparting their *beliefs, opinions and desires*, to the app that they design / develop, (3) the idea of creating their apps for their users, and (4) the apps possessing a sense of serving their *purpose*.





**Diagram 1.1 Venn Diagram for Mobile App Analysis**

From the result of the accomplished analysis, the proponents were able to derive the following claims that may further support the constructive of the methods and the influences governing the designers' and the developers' way of creating mobile apps.

The claims have been separated in accordance to the category from which the ideas have been derived (Design, Function and Trend):

- **Design**

- Personalizing UI and UX matters for this *generation* and the **trends in designs** are mostly derived from user feedback
- A designer's UI / UX are most of the time an extension of **his / her beliefs, interests**

- **Function**

- Developers value the *users* and *their feedback* of their application in deciding features to be included
  - In considering the tools, and the platform to be used, developers also take the **target audience** into consideration
  - The **desires** and **convictions** of a developer may influence his/her application
- **Trend**
    - Businesses are now considering the field of mobile application development for their **marketing strategies**
    - These trends influence companies to be involved in the industry of Mobile Apps by **having an app for themselves**
    - More and more **companies & government agencies** are hosting competitions in *Mobile App development & design*.
      - This trend of conducting contests from *idea/concept building*, to long-term or short-term **development** has slowly invaded the IT and marketing strategies of most corporate entities here in the Philippines

## GLOSSARY

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**CAMSS** – Cloud, Analytics, Mobility, Social Business and Security *(Retrieved from <http://www.ibm.com/ibm/clientcenter/montpellier/camss.shtml>)*

**Digital Strategies** – blueprint for managing customer-facing information technology (IT) initiatives *(Retrieved from <http://searchcio.techtarget.com/definition/digital-strategy>)*

**International Data Corporation** – the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. *(Retrieved from <http://www.idc.com/about/about.jsp>)*

**Imagine Cup** – Microsoft's premier student technology competition *(Retrieved from <https://www.imaginecup.com/>)*

**Mobile Application** – a software application developed specifically for use on small, wireless computing devices, such as smartphones and tablets, rather than desktop or laptop computers. *(Retrieved from <http://whatis.techtarget.com/definition/mobile-app>)*

**Mobile Application Development** - set of processes and procedures involved in writing software for small, wireless computing devices such as smartphones or tablets. *(Retrieved from <http://searchsoa.techtarget.com/definition/Mobile-application-development>)*

**Social Constructionism** - in sociology, a school of thought pertaining to the ways social phenomena are created, institutionalized, and made into tradition by humans. *(Retrieved from <http://dictionary.reference.com/browse/social+constructionism>)*

**UI/User Interface** – everything designed into an information device with which a human being may interact. *(Retrieved from <http://searchsoa.techtarget.com/definition/user-interface>)*

**UX/ User Experience** - The overall experience of a person using a product such as a website or computer application, especially in terms of how easy or pleasing it is to use. *(Retrieved from [http://www.oxforddictionaries.com/us/definition/american\\_english/user-experience](http://www.oxforddictionaries.com/us/definition/american_english/user-experience))*

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