ASIA PACIFIC COLLEGE

School of Computer Science and Information Technology

A RESEARCH ON MOBILE APPLICATION DESIGN

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INTRODUCTION

In light of recent events, wherein smart phones are widely being used all over the world, it is purely evident that *Mobile Applications* (or Mobile Apps) have begun to proliferate alongside the Mobile Market. These 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 app and its relevance to significant issues at status quo, the influences that drive an individual to design or develop an application, and the underlying design forces that may trigger the Mobile apps inception and 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 asserts 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) *Underlying Design Triggers* which includes relevant information as to how the design of Mobile apps are motivated in a social perspective*,*

(2) *Design Process Actors*, which provides a detailed description of the actors that the study identifies as a part of the design process,

(3) *Actors and their Impact to the Design Process,* which includes

- the involvement of the actors in the mobile apps industry, relevant issues to mobile app design (i.e. culture, power dynamics, influences),

- The design process implications that the proponents found in the study they have conducted, along with the **Local Mobile Application Development** section, which discusses the result of the research that the proponents have gathered in accordance to Mobile App development in the Philippines. These mentioned sections are discussed in the Research Findings Section of this study.

Through this study, the team aims to answer the following questions:

1. Is design, market driven or individual driven?
2. Who are the actors in the design of Mobile apps?
3. How do these actors shape the design process?
4. What is the nature of their influences?
5. What are the implications in the design process?

BACKGROUND OF THE STUDY

The team's primary data gathering method is research. For the verification of various items that were obtained through research, the team used another data gathering method which is survey distribution. The group gathered the data for their findings through online and paper surveys. The results obtained were then analyzed and used to attest the research done by the team that was gathered from the web. The survey is divided into two, the *business set* that has sub-categories (those who use mobile apps for work and those who do not). This category includes those people who are involved in marketing, advertising, accounting or any other business-related industry. The next category is the *designers set,* which include people who are affiliated to, or are in the field of multimedia-arts, including both professionals and students.

The team's online survey was made available on March 24 and was closed on April 8. The team allotted a day for the paper survey which was distributed to an office (Union Bank of the

Philippines) wherein the team used the available connections and possible avenues for data gathering that they have to gather survey respondents in the allotted period of time. The online survey for designers reached **39** respondents, the business survey that does not use mobile apps for work has **7** respondents, the business survey who use mobile apps for work has **46** respondents. For the paper survey, the business survey for those who use mobile apps reached a total of **23** respondents and those who don't has **3**, as for the designer survey there were **13** respondents from the office who are designers. All in all, there were a **total of 131 respondents**. It is important to note that most of the respondents in the online questionnaire mostly include those who are in their younger years, within the range of 17 – 21 (although there are still some respondents who are aged older). However, the distributed paper questionnaires were geared towards those who are of older age in comparison to the previous set of respondents (around 22 - above). The reason behind this disparity in the data gathering method lies on the restrictions set by the company in terms of Internet Connection and accessible sites within the office.

Each team member is tasked to do their own research that answers the five questions and then a background of the author is 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 and matches it with the survey questions. 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 were focused on by the group; examples include factors that influenced the designing and developing of a mobile application.

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 is 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, 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

An objective of the study is to delve into the design of mobile applications with regard to the 5 questions to be answered for this research. Only the survey questions that have helped or contributed to the study were discussed in detail. From these questions, the social construction of Mobile app design will be observed based on the respondents' answers. 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. However, the study limits the discussion of actors with regard to the target *respondent sets* that the team assigned for the survey distribution and their gathered data from the research.

For the Mobile Application Analysis, the team has limited the study to the applications researched and discussed in the findings section – to have a manageable pool of comparison within the study.

As much as possible, the team only used survey results and research findings to complete the study, any further hypotheses were discussed based on the findings of the research and the survey.

RESEARCH FINDINGS

Underlying Design Triggers

To further explain various design triggers / determinants that are involved in the *Mobile App Design Process*, the proponents came up with three technical aspects that are linked to the design of Mobile Apps. These aspects 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)

The following sections discuss our findings for each category in detail.

- Design

  - *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. (Wondrack, 2015)*

    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.

- **Researching** for the application's **main purpose** in the field, is also vital in designing the UI and UX of the product. (Tyson, 2015) 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.

- Function

  - *There are certain **features** that the developer must consider in developing functionalities of a mobile application. (Gerber, 2012)* 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 has 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.

Another 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.

- Trend
    - _Mobile applications are now a part of companies' **digital strategies**_ _(Anderson, 2015)_ 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.

- *Incredible, world-changing software **innovations often come from students**. (Castillo, 2015)* 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 center 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

previous 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.

Mobile app design

The description of the **Mobile app design process,** based on the design analysis of Alex Grechanowski (2013), a Digital Marketing Manager of DB Best Technologies, involves (1) the inception / **research** and **business discovery**, (2) the **planning** or the requirements – gathering phase, (3) the **designing** phase (prototyping of wireframes and mockups and graphic design), (4) the **development** phase, (5) the **testing phase**, (6) the **launch / deployment phase** and the (7) **supporting** and **optimization phase** are also part of their mobile app design/development process. The proponents identify these phases within two clusters: the inception (pre-design phase and process #1) and the implementation (process #s 2 - 7) phases.

The proponents used the *underlying design triggers* evaluated in the previous section (Design, Function and Trend) to analyze whether or not the mobile app design is **market – driven** or **individual – driven.** Market – driven design means *having the guidance systems and discipline to make sound strategic choices* and being able to *implement them consistently and thoroughly.* (Day, 1998) On the other hand, individual

– driven design *(for new product development)* pertains to design that has an increased *focus on user creativity and innovation when it comes to generating new ideas to fulfill anticipated needs.* (Jespersen, 2008) Some of the survey questions that helped identify an answer to the question *"Is design, market – driven or individual – driven?" are discussed below:*

- The question: **"When you visit your Local Application Store, do you look for apps that you can use for studies / for work, aside from leisure applications?"** yields a positive response of **82.28%,** and a negative response of **17.72%.** This can be interpreted as "*82% of the respondents seek productivity / utility apps in the market."* Referencing the study of Tyson (2015), it says that Mobile apps in the market all seek to answer a distinct need of its customers. To do this, they must research first on what the app's objective is, and expand that to answer the customer's needs, it can be confirmed that the 82% of the respondents who seek productivity / utility apps in the market, can be a possible source of market research for designers and developers, which in turn may affect how they design / develop a Mobile app. The succeeding pie chart is a representation of the respondent's answers to the mentioned question.

When you visit your Local Application Store, do you look for apps that you can use for studies / work, aside from leisure applications?
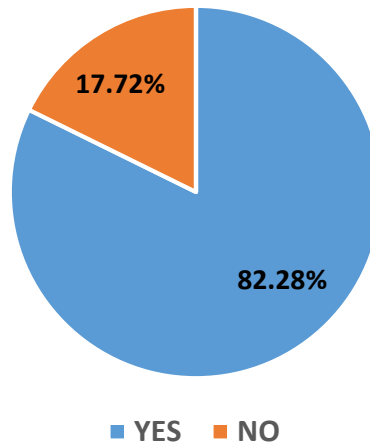

Diagram 1.1 Survey Responses for Business Set

- Another item from the survey instructs the respondent to: **"Rank the following categories of mobile apps, by estimating the frequency of usage you devote to each app in your mobile device."** Our results indicate that the most widely-used mobile app from the categories are Games and Social Networking Apps. This may be interpreted as *"there is a present 'niche', or a special space, in the market for Mobile apps that engage the users' social and personal needs."*

Rank the following mobile apps, by estimating the frequency of usage you devote to each app in your mobile device

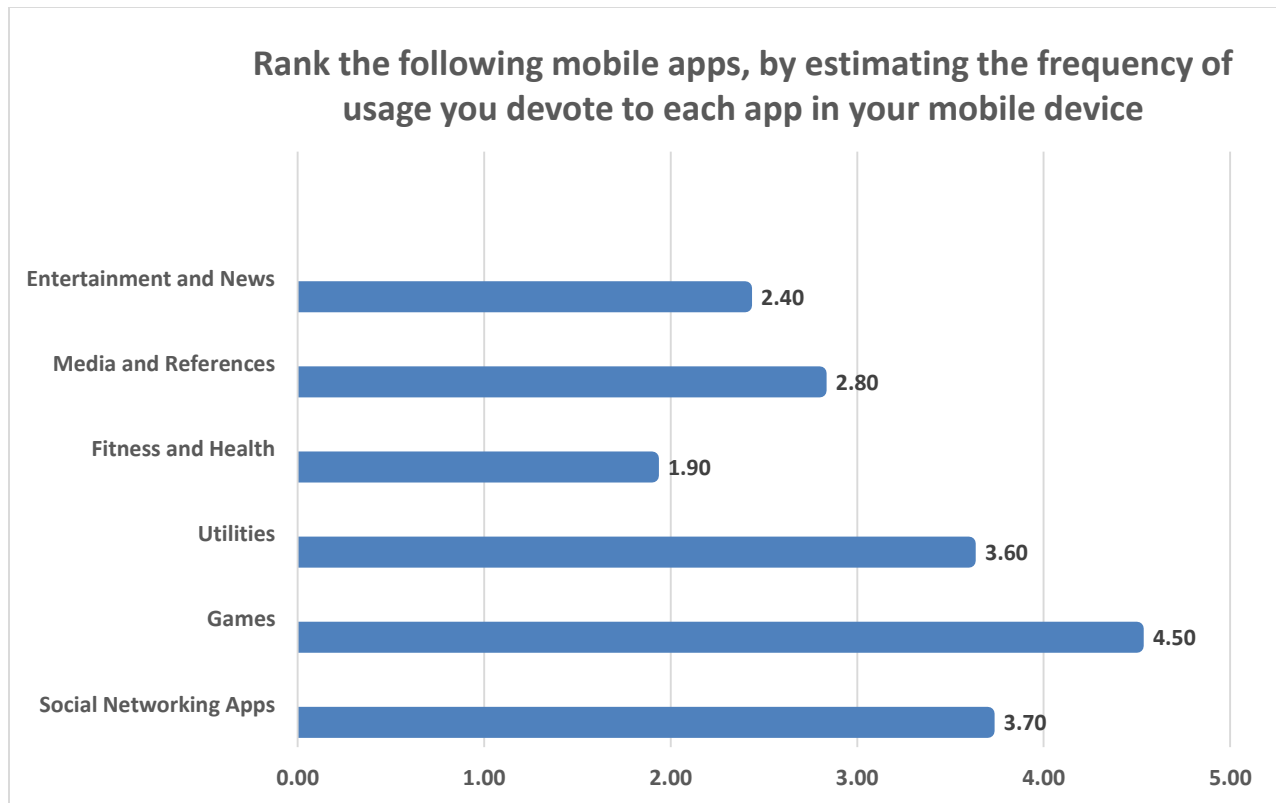| Category	Value
Entertainment and News	2.40
Media and References	2.80
Fitness and Health	1.90
Utilities	3.60
Games	4.50
Social Networking Apps	3.70

Diagram 1.2 Survey Responses for Business Set

It can be seen from the previous illustration that the category of the apps that the *Business-affiliated respondents, who did not use apps for work,* spend most of their time on are Games Social networking and Utilities.

- Now that we have established, that there is a certain niche for identified categories of Mobile apps in the market, let us assess the responses from the item: ***"Tallying the number of applications in your mobile gadgets, identify the range of your installed applications for each category."***

It is important to note that this question was asked to both the *Business set (who used mobile apps for work),* and to the *Designer set.*

The results for the business set are illustrated in the succeeding diagram:
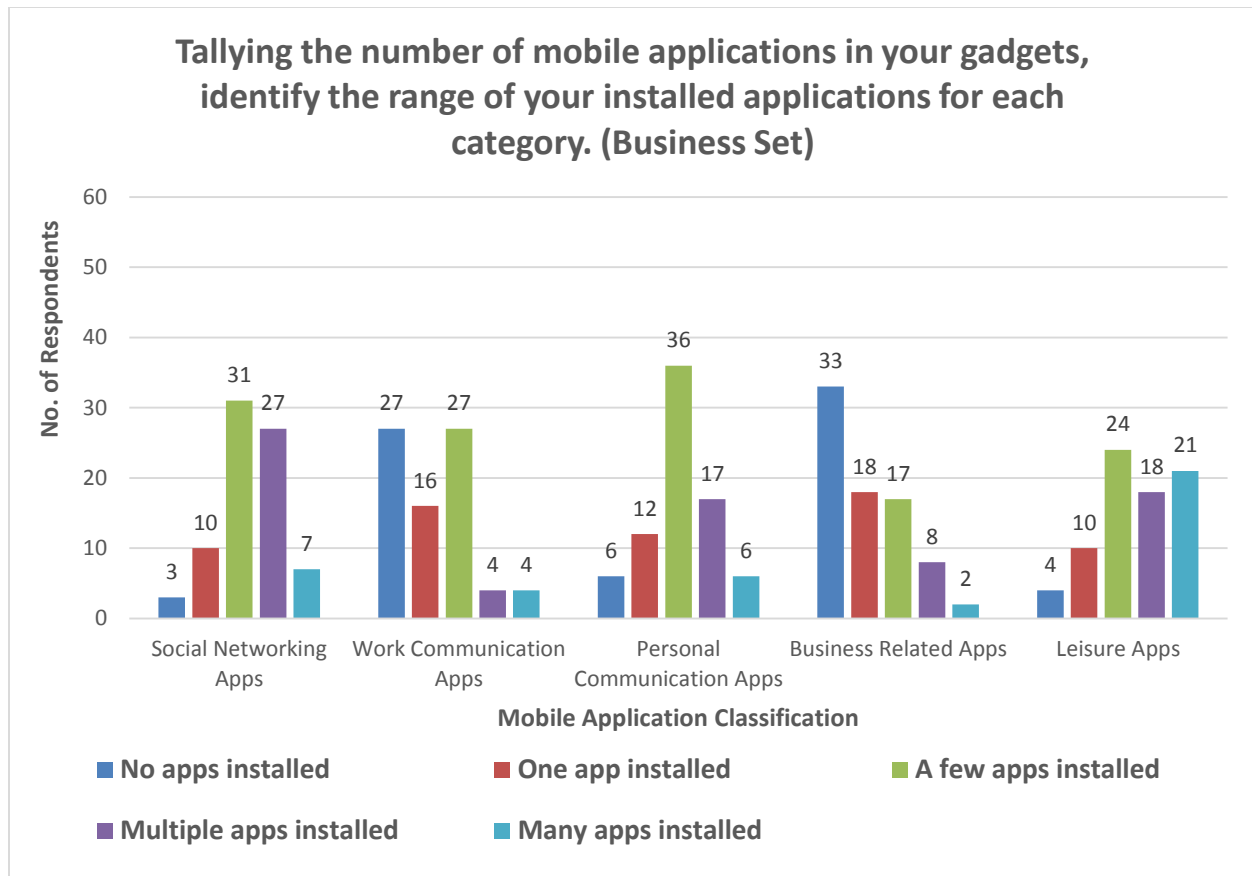
Diagram 1.3 Survey Responses for Business Set

The proponents noticed that the results were leaning greatly on the "few" apps installed section, and this denotes *moderate* usage / downloads of applications available in each category. However, it is very evident, that the business – affiliated respondents mostly *identified **work – communication apps** and **business related apps*** as applications that they **do not have** in their mobile devices.

As for the Designers set, it is evident that there are sections in each category that yield some similarities with the Business set.
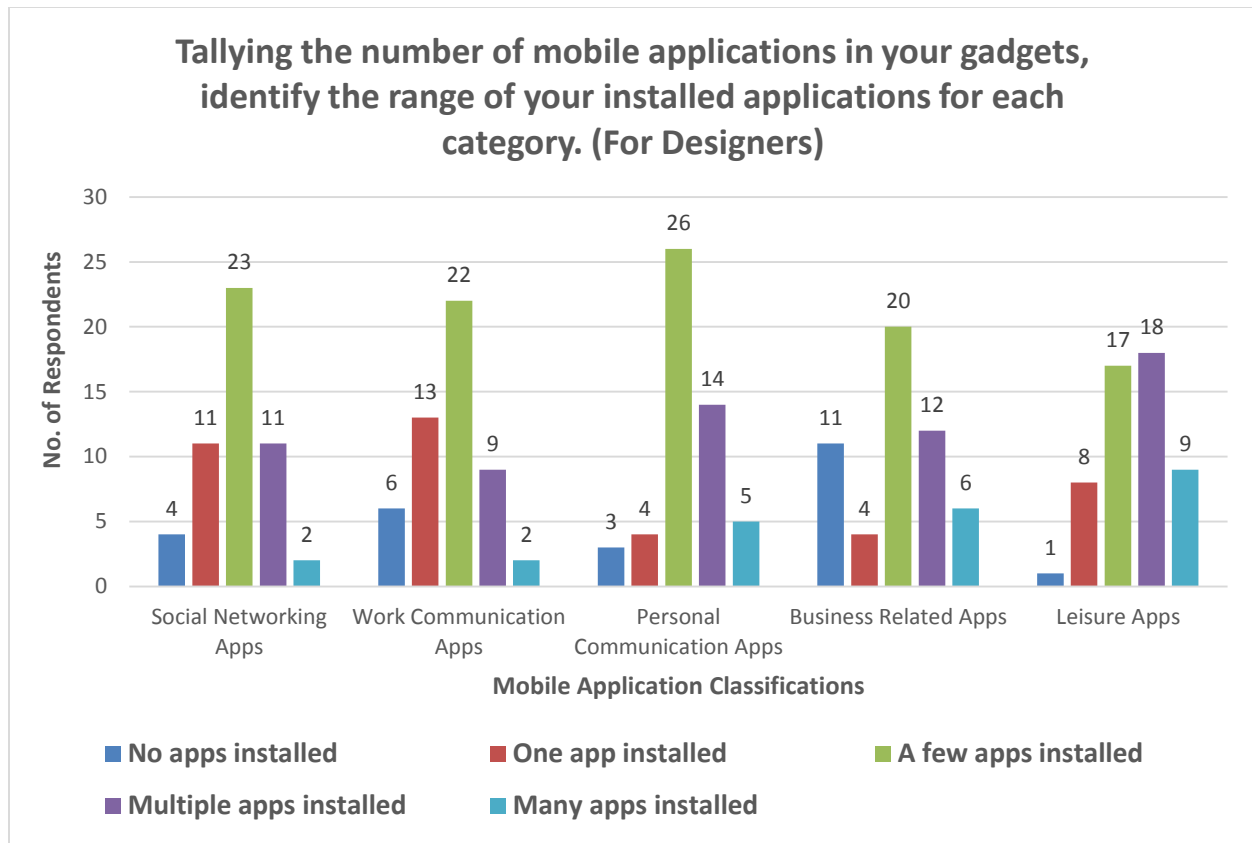
Tallying the number of mobile applications in your gadgets, identify the range of your installed applications for each category. (For Designers)

Diagram 1.4 Survey Responses for Designer set

The previous graph of the designer respondents illustrates the similar *inverse – parabolic* curve for each category (meaning, the responses ascend and meet at the middle, then descend once more). This may be interpreted as: ***"most of the respondents have a few apps of the mentioned categories installed in their mobile devices"***. This is important to note because not only does it further prove that the Mobile app market is deeply rooted in the respondents' devices, but it also proves that the market has now established a social relationship with the Mobile app industry.

To conclude, the proponents believe that from the previous evidences, the answer to the first research question is leaning more on Mobile app *design being market – driven.*

⬇ Design Process Actors

For the Design Process Actors involved in the *Mobile App Design Process,* the team focused on the following possible actors that they used as the target respondents for the Survey Distribution.

This research is concerned with the various origins of influence for Mobile app design wherein the team categorized these sources as *actors, groups* and *elements.* The **actors** include individuals, or personas that influence the Mobile Design process. A collective term for various clusters of influential actors that affect the Mobile app design process as a whole is identified as **groups.** The **basic elements** refer to non – individual and non – group influences that have an effect on the Mobile app design process. These basic technological elements are most likely in the form of intangible and abstract constructs described to represent the entities that help form the design of Mobile apps. Using the sets for the surveys that the team distributed, the proponents derived the mentioned origins under the following sections:

There are 9 sources of influence in one's life that affects ones day to day life and these involves self, environment, experiences, senses, people, future, media, physical and mental health. (Millard, 2015) From what the article stated as sources or influences, the team picked a few influences that can be the common actors that are supposedly evident in both the Business set and the Designer set, and the individual set themselves as shown in the tables below.

The following tables discuss the **common** actors that are supposedly evident in both the **Business** set and the **Designer** set, and the **individual sets** themselves*.*

Common Actors

Actors	Category	Description
Friends and Peers	Actor	Friends and peers are one of the involved parties upon an individual's engagement in Social Networking Mobile applications
Relatives	Actor	An individual's relatives are also involved in one's engagement in Personal Communication apps
Co-workers or Officemates	Actor	Some mobile apps required by the company that are used by office employees may include work – related Communication apps
Self	Actor	The segment of hobbies / past time as represented in the survey may represent one's inclination to participate willingly in the Mobile app design process
Competition Hosts	Group	Companies / businesses that competitions for Mobile apps
Government Agencies	Group	Government agencies that host / partner with competitions for Mobile application development
Technology	Basic Element	Various forms of technology, may it be in the form of Mobile Operating Systems or application types
Principles	Basic Element	The fundamentals of design process.

Table 1.1 Common Actors for Both Business and Designer Set

Business Set

Actors	Category	Description
Business-affiliated professionals / students	Actor	The people that are involved in Marketing, Advertising, Accounting, and other Business – related personas that were considered as this set's target respondents
Clients and Customers	Actor	External individuals related to communication apps.
Company	Group	The entity that influences or mandates the use of work related mobile application

Table 1.2 Set – Specific Actors for the Business-affiliates

Designers Set

Actors	Category	Description
Designers	Actor	The people that are involved in application designing or any multimedia arts related industry– related personas that were considered as this set's target respondents
Professors	Actor	People that push and influence the designers with course/school requirements in developing mobile applications.
Intended Users	Actor	A collective term that refers to the people for whom designers create mobile application designs for.

Company Employer and Clients	Actor	The people that set requirements and standards that designer follow for the design process.
Market	Group	The target by most mobile application projects for profitability
UI / UX Community	Group	A faction where designers convene to converse about the latest trend and to lend a hand to co-designers
Schools / Institutes	Group	The training ground that buds and influence the designers to be involved in mobile application development.

Table 1.3 Set – specific actors for the Designers

According to the designer set survey gathered by the team, the most influential factor for professional designers in deciding to design a particular mobile application is one's hobby/interest, job opportunities, profit and school requirements are all factors in deciding to design mobile applications, and this is in line with most of the student respondents' answers, but somehow their results show a prioritization of school requirements in their decision – making process (Please refer to Graph 3.2 and Graph 3.3). It is important to note that *deciding* to design a mobile application, although within the confines of Mobile app design, is purely in the design inception phase – and is mutually exclusive with the design implementation phase. The will to design a mobile app, will inherently be the individual's choice and contingent on the decision of an individual – the purpose of this question is to explore the usage of one's capacity to decide and those that affect it.
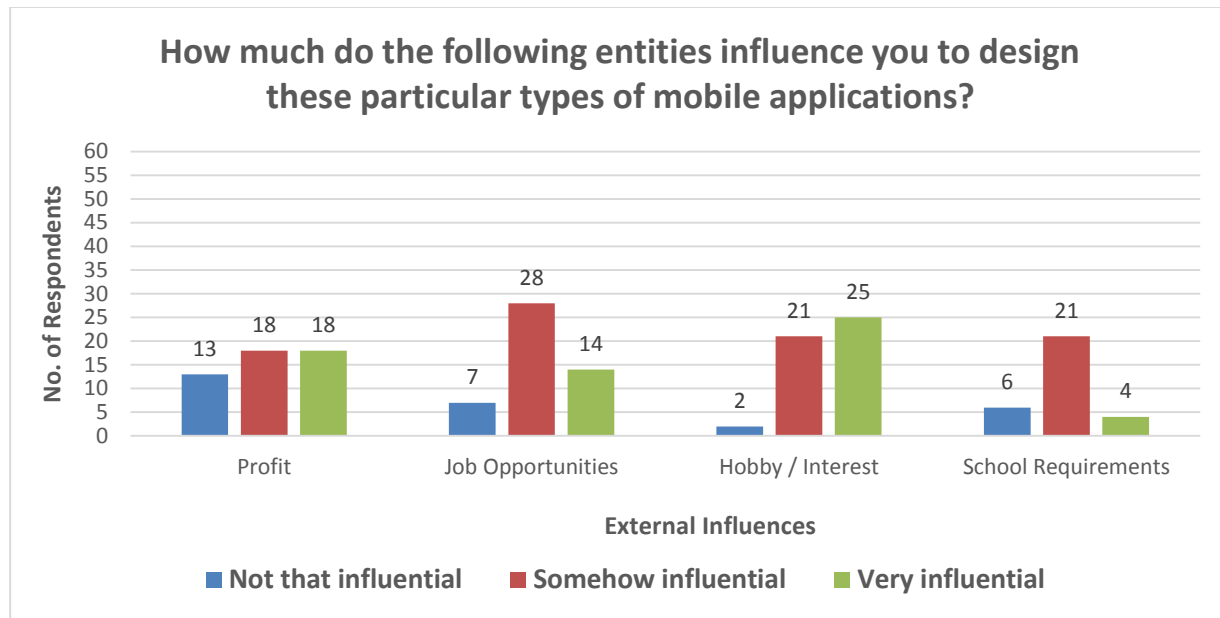
How much do the following entities influence you to design these particular types of mobile applications?

Legend: ■ Not that influential ■ Somehow influential ■ Very influential

External Influences	Not that influential	Somehow influential	Very influential
Profit	13	18	18
Job Opportunities	7	28	14
Hobby / Interest	2	21	25
School Requirements	6	21	4

Diagram 1.5 Survey Responses for Designer set

As what is shown, the designer's self is one of the major key actors in the design's inception process with majority of the respondents answering hobby or interest as the most influential. This proves that the designer's **knowledge** and **principles** are vital factors in the inception of Mobile app design.

Arrange the following aspects in accordance to the level of consideration that you allot when designing mobile applications.

Aspect	Value
Ergonomics and Practicality	3.04
Functional Specifications	2.87
Trend	2.58
Client's Requirement	3.27
Designer's Perspective	2.52
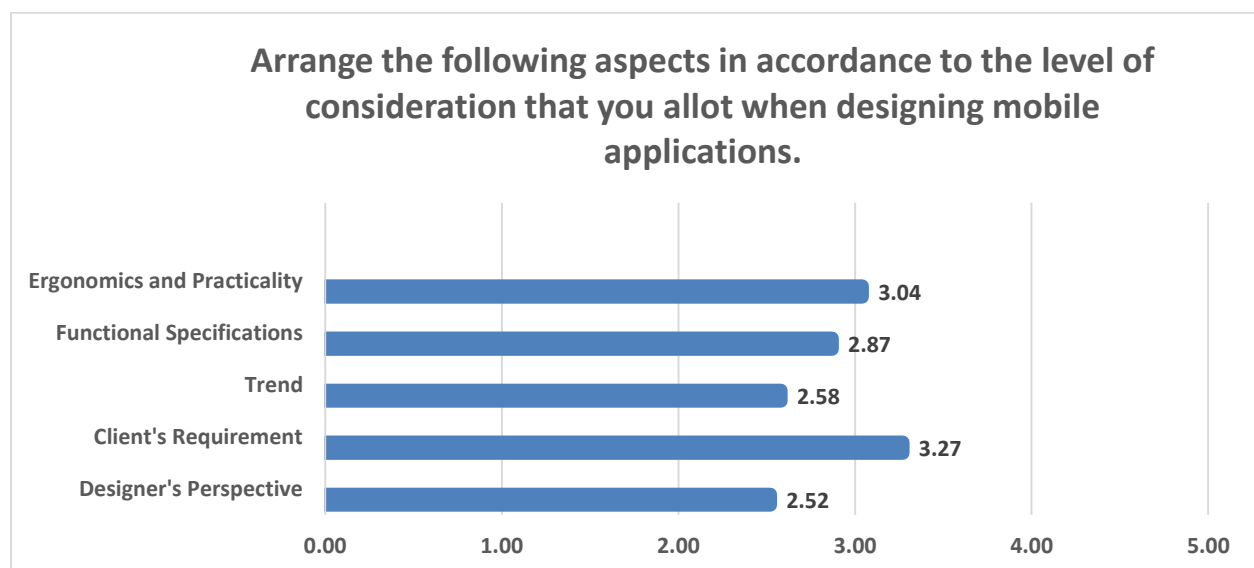
Diagram 1.6 Survey Responses for Designer set

The previous diagram states that designers consider their **client's requirement** as their first priority followed by **Ergonomics and Practicality**. With this we can further testify that the design is market driven and the market (or in this case the clients) are one of the main actors who shape the design of Mobile applications, since most designers create or design their app based on what the market demands.

- 🞥 **The Actors and Their Impact to the Design Process**

  - **Design Process Formation**

In designing a mobile application, there are some things to consider like what platform are your designing it for, is it for a mobile website or a mobile app, what is it for or what specific app are you designing it for, UI conventions and finally the practicality of the mobile app. (Warren, 2010)

The designer set survey shown in the diagrams below shows how much and what are the things that designers consider in coming up with a mobile app design:

As a person in the field of Designing, given the opportunity to choose between web designing and mobile application designing, which of the two would be your choice?

- 31%
- 62%
- 7%

■ Web Designing　■ Mobile Application Designing　■ It depends / It's complicated
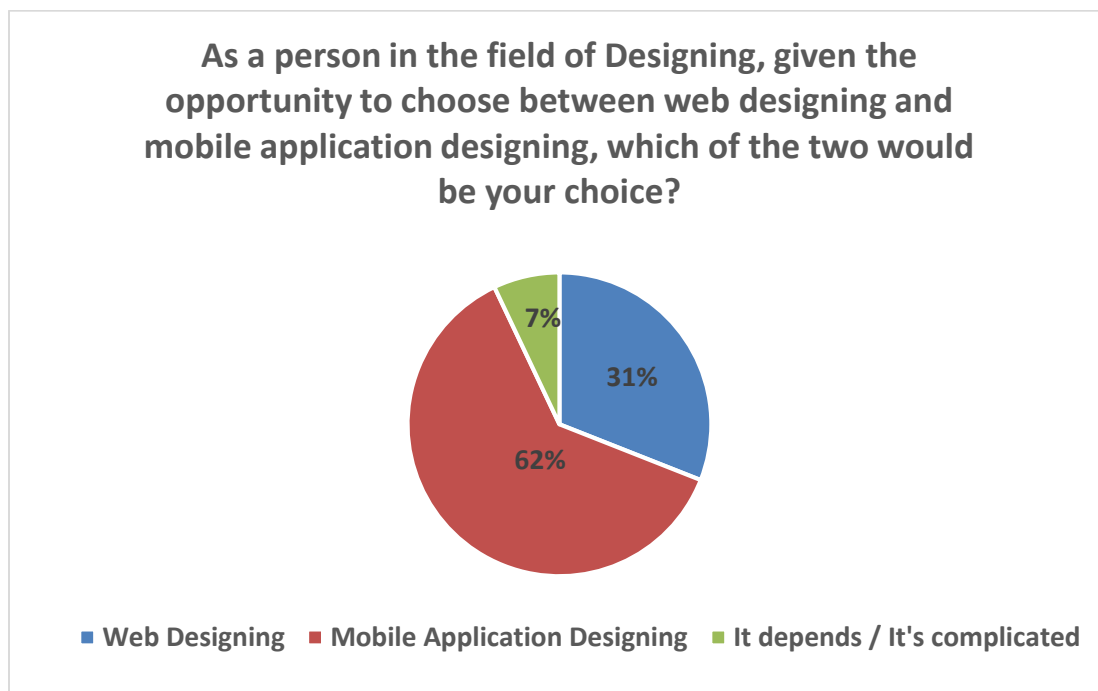
Diagram 1.7 Survey Responses for Designer set

The figure shows that the designer respondents is into mobile application designing and 31% of the respondents said that web designing is still the respondents' preferred platform and 7% were contemplating between web and mobile. It is important to consider that some of those in the 7% answered *"Depends on theme or concept of the team", another response was "Depends on the nature of the project", and another answered "Depending on the need of the client. I'm quite flexible with design so I can do any of both".* The results illustrate that the the **theme,** the **concept of the team,** the **nature of the project** help shape the design process as stated by the designers. Another important criteria is that some of them are reliant to the **need** of the **client**, which supports the statement that design is shaped by the market. In this the designer's **principles** and basic knowledge about designing takes an integral role in them deciding what steps to do for the client.

The respondents' rise of interest in mobile application design has something to do with the discussion in the previous section of the research study, *the Design Process Actors*. In the previous study, *technology* was discussed as one of the **basic elements** that contribute to the mobile application design process. According to the designer set survey which is illustrated in the chart below, 92% of the respondents consult the internet for the latest trends in design involving the current tools or the technology used by most designers in the design process. Linking this to the influences of the UI / UX Community to the designers, we may be able to arrive with this interpretation: ***"92% of the designers feel comfortable in consulting the UI / UX Community, in the form of Websites, Groups, Forums, articles and items of***

the like, (all present on the internet), in identifying and keeping up with the

latest trends in design." This finding is important to consider because through this

output, we are able to generate an idea of where the designers retrieve information

about how the design is created for the system. This somehow enigmatic factor of

design is shed light by the purpose of this question – which is, specifically, to gauge

as to whether or not designers personally identify their own specific design, or if they

identify, track and keep up with the latest designs that are available on the internet.

In the process of designing a mobile application, do you consult the Internet for the latest trends in design?
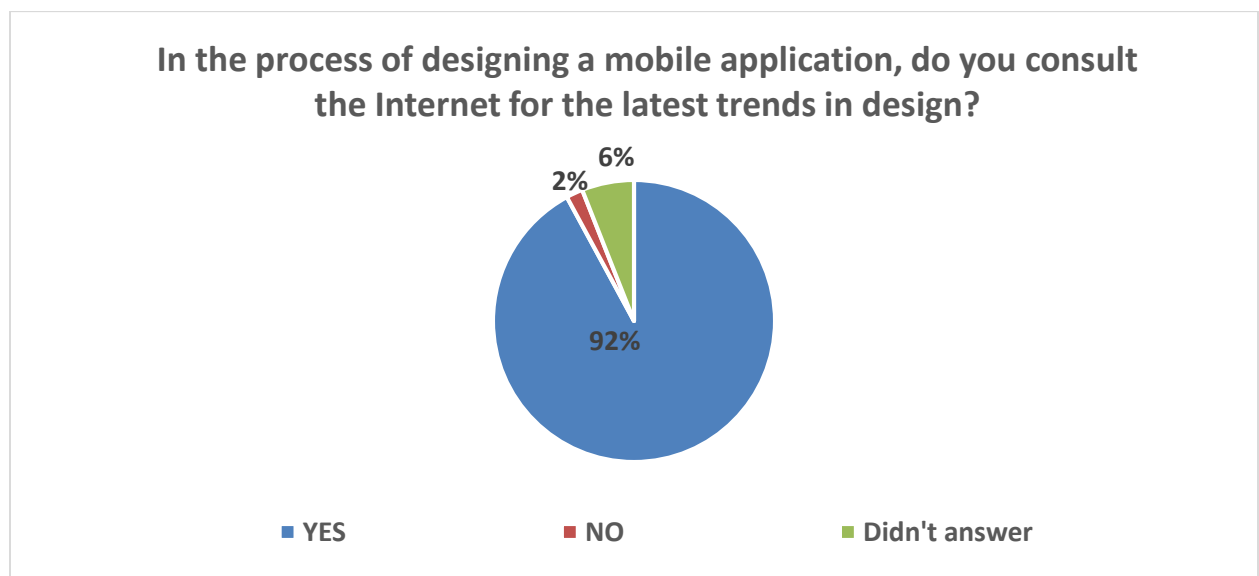
Diagram 1.8 Survey Responses for Designer set

Technology or the **tools** used in designing mobile applications, or in this case the

platforms and the operating system that are currently available in the market in

connection with the designer's preferred or own choice of usage, **greatly influences**

the way designers **create** or come up with **mobile compatible designs**. The

succeeding diagram explains the result of the designer's choice in Operating

Systems. In fact, some of the outliers for this survey question answered *"iOs and*

Android", and another responded with *"All of the above, if possible".*

Which particular mobile Operating System, would you be interested in designing a mobile for?

[Pie chart showing: 63% (blue), 27% (red), 4% (teal), 6% (orange)]

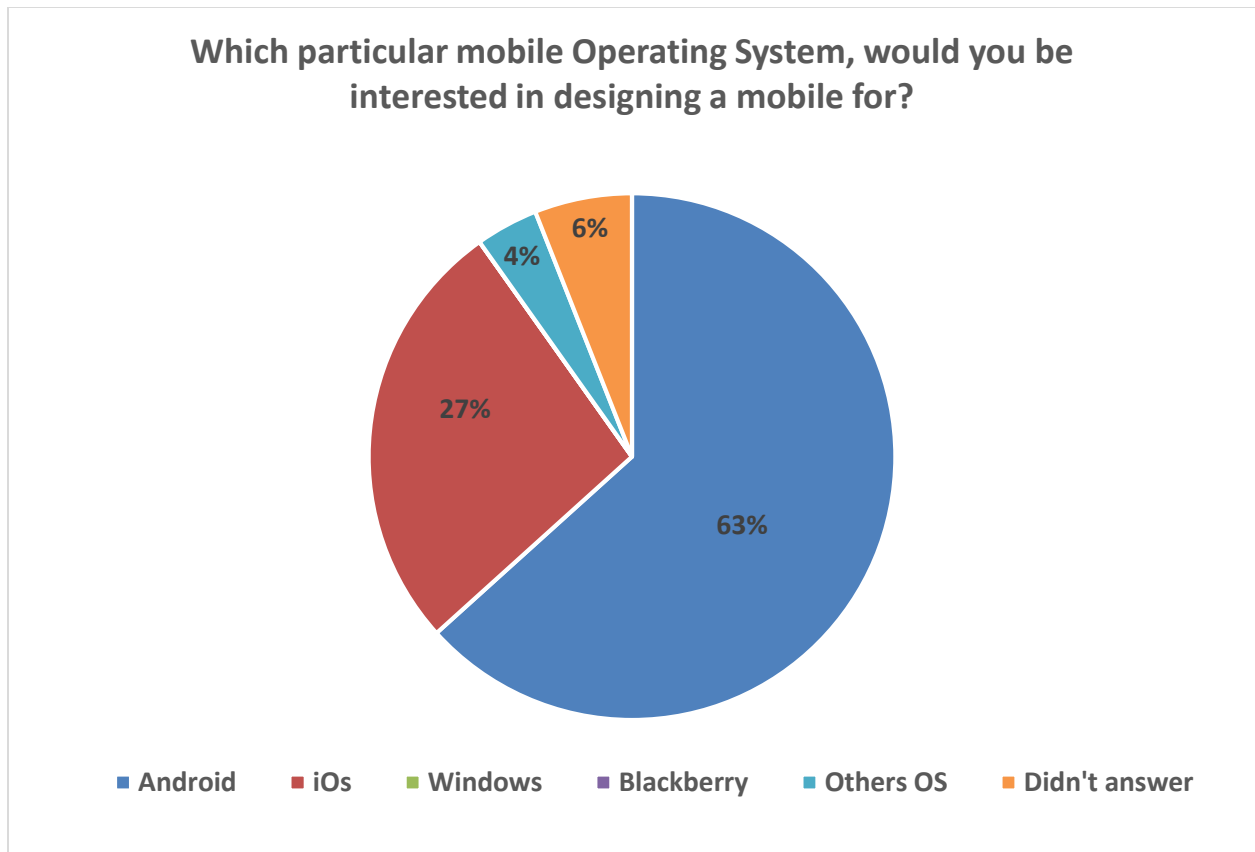Legend: ■ Android ■ iOs ■ Windows ■ Blackberry ■ Others OS ■ Didn't answer

Diagram 1.9 Survey Responses for Designer set

Here is another example of technology and the designers' self, or own choice, being illustrated as one of the key factors in the formation of application in the listed categories in the diagram below. The games category tops all of the others with **71.5%** leaving the second placers which are the travel apps/maps and entertainment apps with 13.81% lead. With the respondents ranging from ages 25 and below may well explain the disparity between the other categories as coming off at the top and the current demand with the technology that we have. The mobile game app industry is exceeding the market estimates and is still growing. (Pearson, 2014)

What particular types of apps do you want to design?

Travel Apps, Maps — 57.69%
Sports Apps — 30.77%
Social Networking Apps — 42.31%
Productivity Apps — 50.00%
News Apps — 38.46%
Games — 71.15%
Entertainment Apps — 57.69%

0.00% — 100.00%
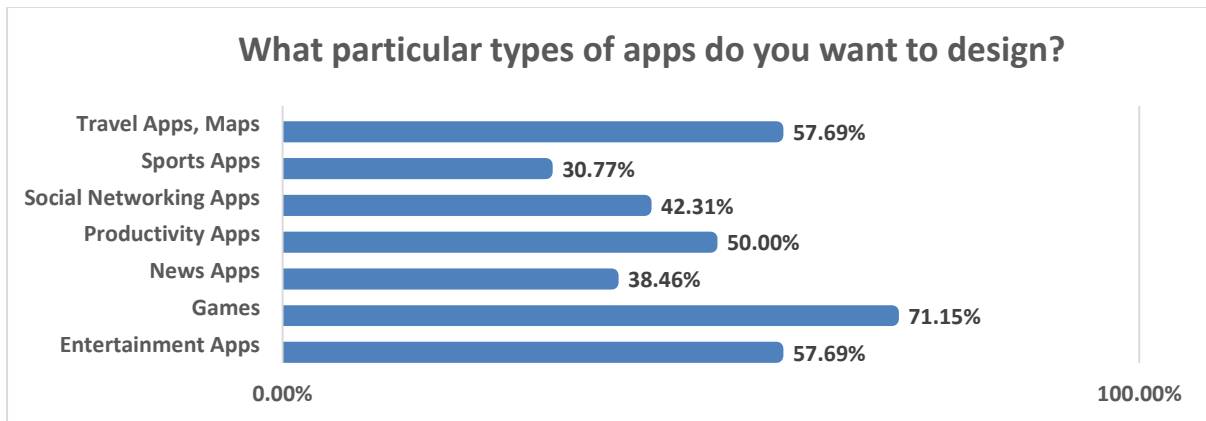
Diagram 2.0 Survey Responses for Designer set

In creating a design for an application, user experience (UX) and user interface (UI) designers should be separated and not combined. Designers need not only design for their own self-interest but also for the users of their design. UX designers study the users and keep their experience throughout the phases of the project while UI designers are people that makes users understand ad figure out how their design works just by looking at it. (Morrison, 2014) With that said, the way designers study the users of their Mobile app is one of the factors that they consider in the design process. The diagram below illustrates that the respondents' main concern is the app's user experience with 73% of them believing that UX is more important than UI.

In your opinion, which of the following should a designer devote more effort / focus on?

6%
21%
73%

■ User Interface (UI)   ■ User Experience (UX)   ■ Didn't answer
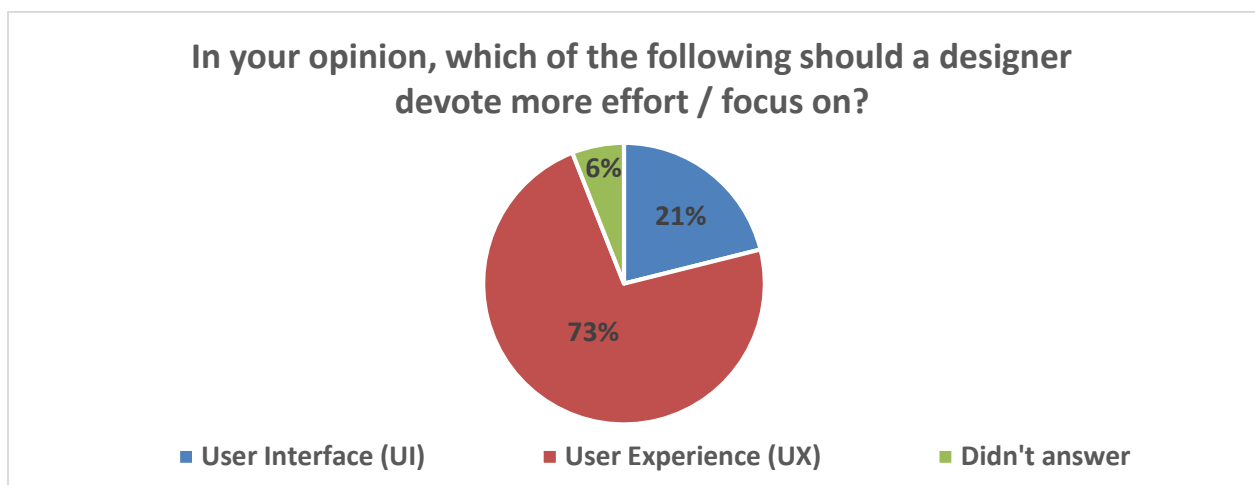
Diagram 2.1 Survey Responses for Designer set

- **Nature of their Influences**

During the evaluation of the study's identified actors for the mobile app development process, the proponents were able to derive various items which may be considered as the *nature of their influences.* The research results and survey questions will be stated in the succeeding paragraphs of this section.

Initially, coming from a previous question, respondents rated the level of influence that **profit, job opportunities, hobbies** and **school requirements** had on their decision to begin designing a mobile application. These items are considerable sources of the *nature* of the designers' influences because these abstract and intangible concepts affect the decision of the participants in the Mobile app design process. It may also be recalled, that when designers were given the opportunity to choose between Mobile and Web App Designing, some outliers answered in particular: *"Depends on theme or concept of the team".* From this, the **theme** or the **concept** of the team / of the **project** at hand, are also considerable items in the nature of the actors' influences in Mobile app design. Other responses include *"Depends on the nature of the project",* and *"Depending on the need of the client. I'm quite flexible with design so I can do any of both",* for these responses, it can be assessed that the **nature of the project,** and the **need of the client,** are also items to be considered in the nature of these actors' influences.

To explore some of the nature of influences identified, the proponents were able to identify and relate some of these natures with the study of Castillo (2015), which states that

incredible, world-changing software innovations often come from students. With this study, the proponents incorporated the idea of having a **theme,** a **concept,** a **project nature** and a **need to be satisfied** with various competitions that have been held of late. It is evident that more and more **companies** & **government agencies** are hosting competitions in *Mobile App development & design,* and these competitions give opportunities to *student developers and designers* to make use of their knowledge to undergo the process of Mobile app design.

Some companies that have hosted recent Mobile application challenges in the Philippines include **Nokia Mobile Lab's Extreme Java Mobile App Dev Challenge** (2012)**,** and **Accenture's Technology Campus Challenge** (2014).

Some Philippine government agencies and non – profit organizations that have recently conducted competitions / partnered with competitions of the late, include **devCon-Ph (Developers Connect Philippines)** (2009 – 2015)**, Philippine Commission on Women** (2014)**,** and **Caritakathon (*portmanteau of* Caritas x Hackathon)** (2015)**.**

These competitions become sources of students theme or concept for their project entries, and most of these competitions desire to answer a specific need inherent in the society. 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, and this conclusion is in line with the study of Anderson (2015).

- **Design Process Implications**

With regard to the question of *how the respondents foresee the integration of Mobile apps in their industry,* the majority of business set respondents answered mobile applications is normally and rapidly integrating in their industry. This is important to note, because this implies that most of the respondents believe that Mobile applications have begun to be a part of their industry.
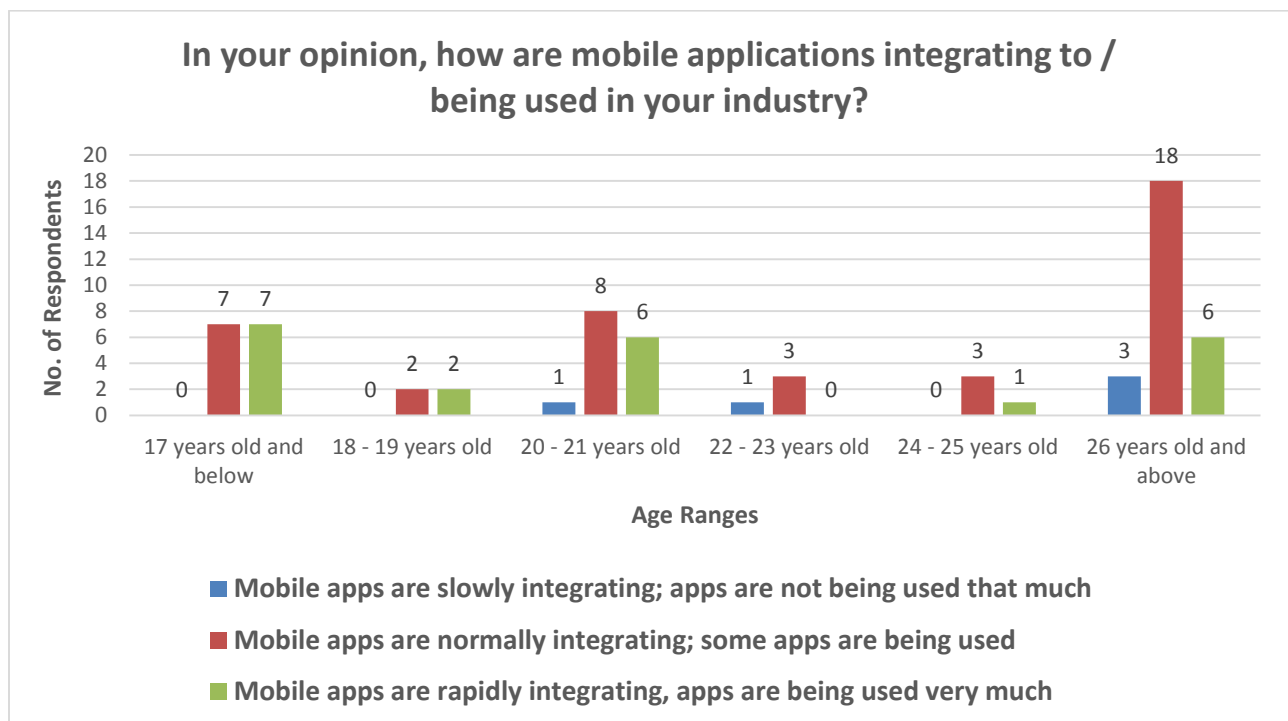

In your opinion, how are mobile applications integrating to / being used in your industry?

Legend:
- Mobile apps are slowly integrating; apps are not being used that much
- Mobile apps are normally integrating; some apps are being used
- Mobile apps are rapidly integrating, apps are being used very much

Diagram 2.2 Survey Responses for Business set

- o **Local Mobile Application Development**

After obtaining the evidences for the research, the proponents have arrived with an analysis for Mobile apps created by Filipinos in the industry to help identify *design process implications* present in this research study. 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
DESIGN	• Filipino culture is present in the whole game • The UI is responsive, and may be considered as average, based on ratings	• Design is simple and is geared towards functionality	• Both incorporates designs similar to the app Flappy-bird • There are some minor revisions in each app's U
FUNCTION	• In some ways, their games may be considered as *'a rip off'* of food serving games from Y8.com	• T A R A : Theft Apprehension and Asset Recovery • If you activate the kill switch, the phone will scream *"Magnanakaw!"* non-stop. • Creating an account is as simple as registering an email account	• 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
TREND	• Kuyimobile, the app's developer and uploader –	• Unfortunately, this app is only available for MyPhone users	• The "Bulalord Extreme" and "pugo" apps are clones from its original game

	are embracing the industry of mobile games, by adding a theme of Filipino Pride in their app • The basis of the app's functions are derived from Y8.com	• The culture of seeking solutions to everyday *problems* are being incorporated in this app	"Flappy Bird" and based from news that became a trend in the Filipino Social Media/Community.

Table 1.4 Mobile Application Analysis

Aside from the local mobile companies and applications, there are also associations that help promote the mobile application industry in the Philippines like GDAP and IMMAP. GDAP or Game Developers Association of the Philippines contributes to the local mobile application development by having their members create and publish interactive games in various platforms. GDAP also has other services for their members like training, promotions and government relations. As of now GDAP has schools and companies as their members which can be seen from their official website, gdap.org.ph. Another is IMMAP or Internet and Mobile Marketing Association of the Philippines wherein it has somewhat a similarity with GDAP's goal wherein IMMAP aims to promote the mobile industry in the Philippines to be known to the world. IMMAP's services are mainly focused on empowering the digital marketing strategy industry.

These associations are local examples of some actors that affect and influence the Mobile app design process through the services that they offer and the activities that they conduct.

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:
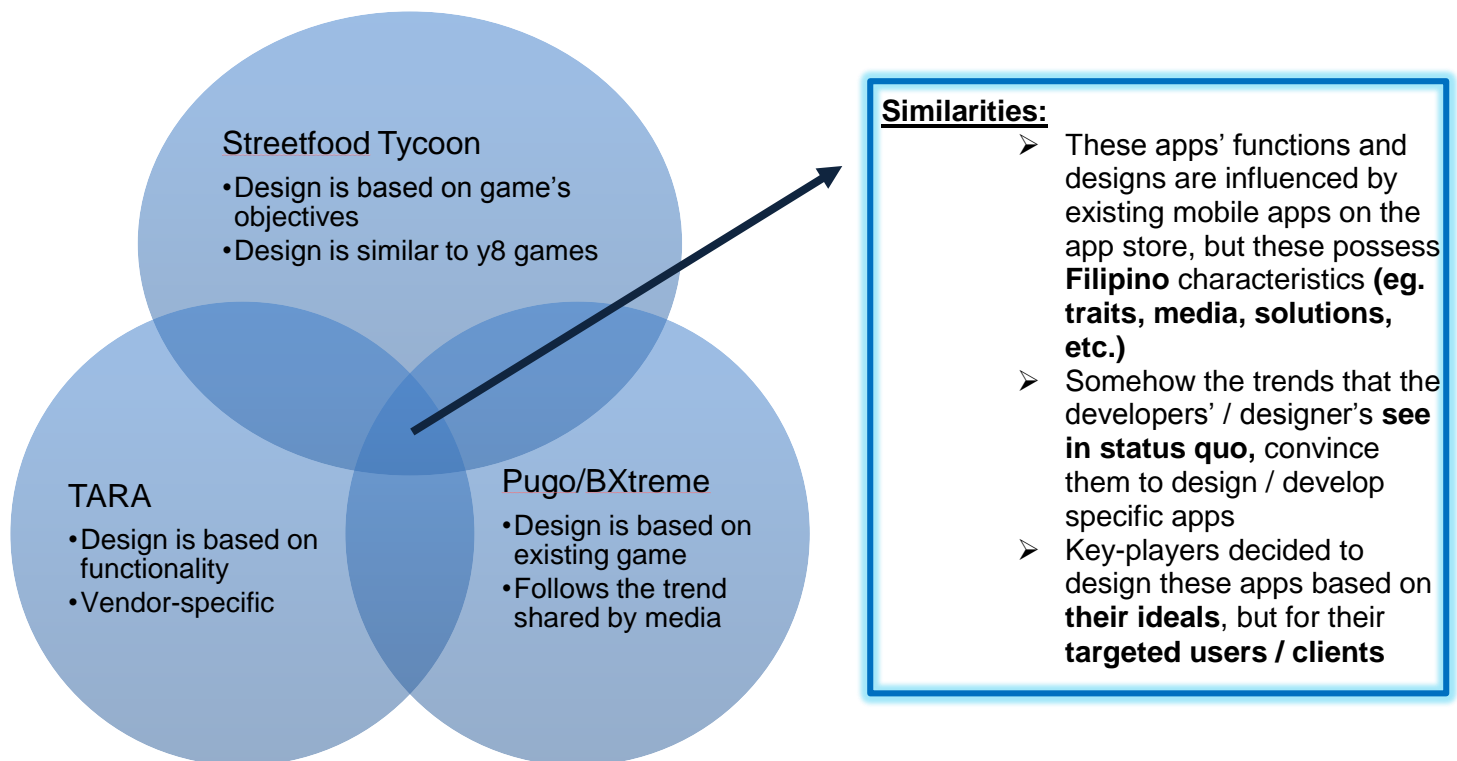

Diagram 2.3 Venn Diagram for Mobile App Analysis

The previous illustration is a visual representation of the obtained results for the Mobile App Analysis. The proponents were able to arrive with some similarities among the Filipino Mobile apps, which in turn may serve as present **design implications** such as (1) the injection of *Filipino Characteristics,* to the concept of existing mobile apps that are available in the market, (2) the value of the developers / designers being convinced by the **latest trends in media,** and in other sources, to design / develop a mobile app, and (3) after deciding to develop applications, they begin **designing their apps for their users.**

SUMMARY OF RESEARCH FINDINGS

This section provides an outline of the various answers to the research questions of this study, some of which were already mentioned in the findings section.

1. Is design market-driven or individual-driven?

The team was able to come up with findings that indicate that (1) the market seeks useful apps that can increase their productivity. Another important finding indicates that the (2) market has an established set of mobile apps in their devices, and to support this, (3) the market has already proven to have installed in their devices, *a few apps* of the mentioned categories. Some of which can be linked to the first question, that for the app categories that the respondents don't have on their devices, these may possibly be the applications that they are seeking. With these evidences, we conclude that the design is market-driven.

2. Who are the actors in the design of the apps?

For this question, the team was able to arrive with several actors who influence the design of applications, these sources of influence have been categorized under ***actors, groups*** and ***elements.*** Some of these actors have been enumerated in the research findings section, it is important to note that the findings for the designers emphasize the importance of *professors, instructors and institutions (or schools)* for the students' Mobile app design process, because they consider **school requirements** as a factor in deciding to design a mobile app. For the designing professionals, an influence for them to begin designing an app, is their **hobby / self-interest**. However, from these results it can be confirmed that these hobbies / self – interests are in line with the **latest trends** that the respondent see, or with the respondents' **sphere of influence**. (Millard, 2015) Lastly,

another important source of influence in the design process includes **the client and their requirements.**

3. How do these actors shape the design process?

The actors mentioned in the previous section, somehow uses various ways or elements to influence / shape the design process. One finding indicates that the principles that they have learned about designing are incorporated in their choice of platform design. Some prefer the ***nature of the project,*** and for others, the ***theme or the concept of the team*** must be considered. In another finding, the proponents were able to identify the importance of keeping up with the **trends** that are available in the internet. An interpretation to this could include their participation in the web's UI / UX Community. Another factor considered by the designers in shaping the design process includes the **technology / tools** to be used, which in this case is the Operating System of the mobile app. A finding also indicates the designers' inclination to design *Games, Entertainment* and *Travel Apps*. Lastly, the consideration of allotting more effort on the **UX** of a Mobile app insinuates the desire of designers to make the application smooth and friendly for the user.

4. What is the nature of their influences?

Influences, that the proponents were able to identify using the survey, include **profit, job opportunities, hobbies,** and **school requirements.** Some of the other influences include **the theme** or the **concept of the team,** the **nature of the project,** and the **need of the client.** The corporate entities that the proponents have researched as hosts of competitions, provide a **drive** for the students who participate in these said competitions, in line with the studies of Castillo (2015) and Anderson (2015).

5. What are the implications in the design process?

Some of the implications that the team were able to derive from the Mobile app analysis and the survey results include how business respondents perceive the integration of Mobile apps in the industry. The results indicate that most of them consider apps as *normally* and *rapidly integrating.* This finding confirms that most of the business respondents who see the integration of Mobile apps in the industry are those who belong to the younger years. From the Mobile app analysis, the proponents were able to arrive with apps that elicited **Filipino characteristics** that have been injected in **existing** mobile apps that are in the market. Another implication from this study is that to a certain extent, the **trends that the developers/designers see in the society at status quo,** are incorporated in the decision of these Mobile app developers / designers to design the mentioned mobile apps. An implication could be that in **creating applications for their users,** Filipino mobile app developers / designers incorporate the ideas of the latest trends for them to develop their applications for the public / for their users.

GLOSSARY

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)*

Ergonomics – a science that deals with designing and arranging things so that people can use them easily and safely. The parts or qualities of something's design that make it easy to use *(Retrieved from Merriam Webster)*

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)*

Niche – the situation in which a business' products or services can succeed by being sold to a particular kind or group of people. *(Retrieved from Merriam Webster)*

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)*

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APPENDIX A

Mobile Application Sample Screenshots:

Image 1.1 Streetfood Tycoon at the Android App Store
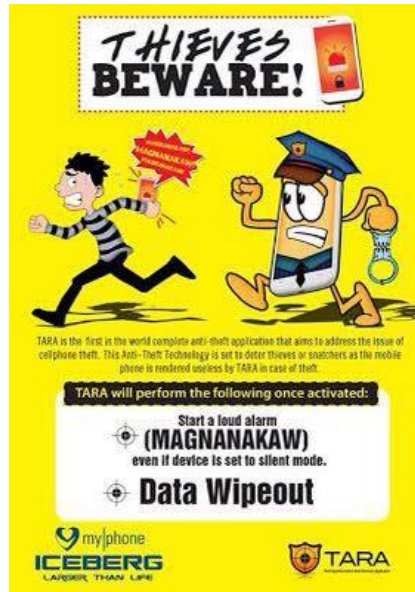

Image 1.2 Streetfood Tycoon Interface

Image 1.3 TARA Mobile App Poster

Image 1.4 Pugo Home Screen

Image 1.6 Bulalord Xtreme Screenshot

Image 1.5 Pugo In-game Screenshot

Survey Files

Image 1.7 Sample Hardcopy Survey for Respondents (with answers)

Survey Monkey Questionnaire: <u>Online Survey (Designer set)</u>
Survey Monkey Questionnaires on Tumblr: <u>Online Survey (Business set)</u>
- **<u>Those who use Mobile apps for work</u>**
- **<u>Those who don't use Mobile apps for work</u>**

APPENDIX B

Survey for Business Related Respondents:

The total number of respondents who answered the Business related survey on both online and paper is 79.

MAIN QUESTION

Do you use mobile apps in your industry / field? (Please select only one from the choices)

- Yes
- No

 - *In the 79 total respondents, 69 of them answered **YES** for the above question, 32 of the 69 are males while the remaining 37 are females.*

For people who answered **YES:**

1. Please select the appropriate range for your age.

- 17 and below
- 18 – 19
- 20 -21
- 22 – 23
- 24 – 25
- 26 and above

 - *It shows that in the 69 respondents, 14 of them are from the age range 17 and below, 4 of them are from 18 to 19 years old, 16 of them are from 20 to 21 years old, 4 are from 22 to 23 years old, another 4 are from 24 – 25 years old and the remaining 27 are from age range 26 and above.*

2. Please select your gender:

- Male
- Female

 - *Analyzing the total number of respondents for those who answered **YES**, 32 of the 69 are males while the remaining 37 are females.*

3. When you visit your Local Application Store, do you look for the apps that you can use for studies / for work, aside from leisure applications?

- Yes
- No

- *85.51% or exactly 59 of the 69 respondents answered YES while the remaining 14.49% or 10 respondents answered NO. (Please refer to Graph 1.1.)*

When you visit your Local Application Store, do you look for apps that you can use for studies / work, aside from leisure applications?

14.49%

85.51%

■ YES ■ NO
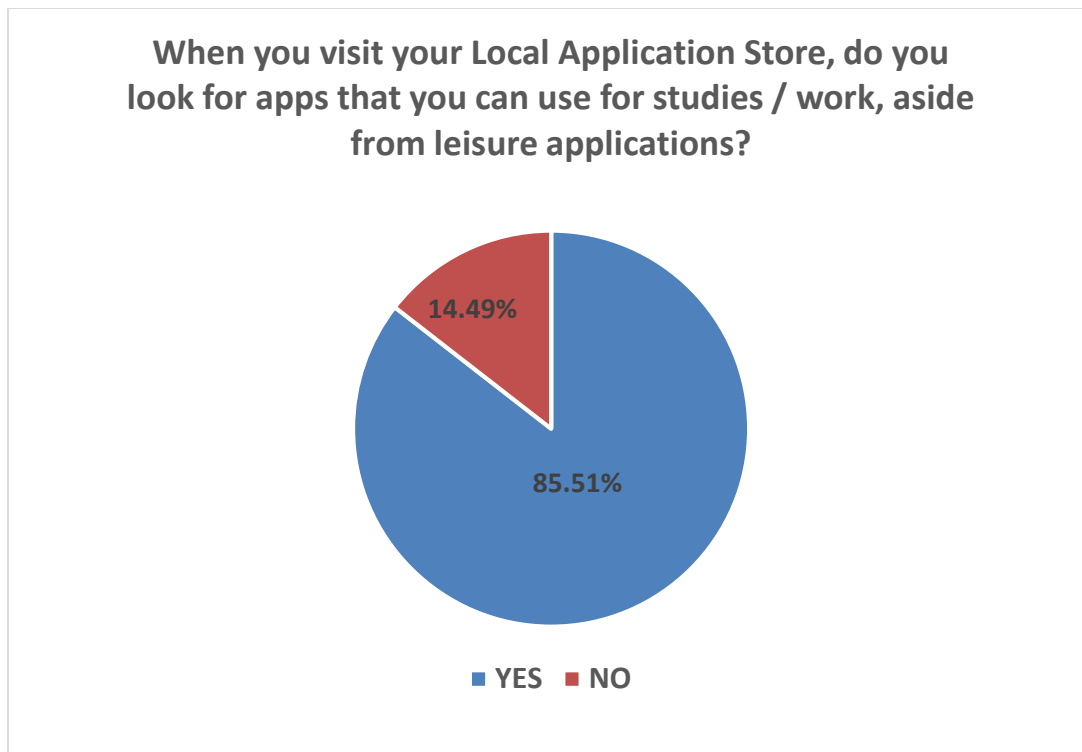
Graph 1.1

4. In your opinion, how are mobile applications integrating to / being used in your industry or field?

- Mobile apps are *slowly* integrating; apps are *not being used* that much
- Mobile apps are *normally* integrating; *some apps* are being *used*
- Mobile apps are *rapidly* integrating; apps are *being used very much*

  - *59.42% or exactly 41 of the 69 respondents answered that mobile apps are **normally** integrating, 31.88% or exactly 22 of the 69 respondents answered that it is **rapidly** integrating while the remaining 7.25% or 5 respondents answered that it is **slowly** integrating. **(Please refer to Graph 1.2.)***

In your opinion, how are mobile applications integrating to / being used in your industry or what?
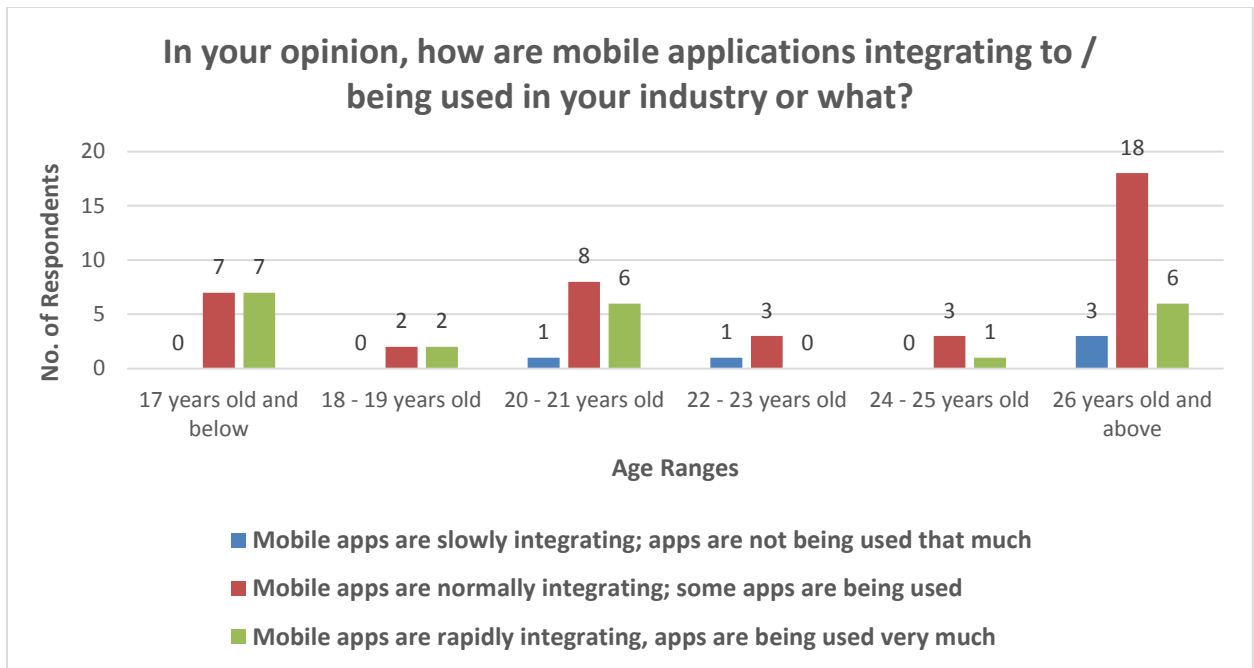
Graph 1.2

5. Tallying the number of mobile applications in your gadgets, identify the range of your installed applications for each category

	No apps installed	One app installed	A few apps installed	Multiple apps installed	Many apps installed
Social Networking Apps	○	○	○	○	○
Work Communication Apps	○	○	○	○	○
Personal Communication Apps	○	○	○	○	○
Business Related Apps	○	○	○	○	○
Leisure Apps	○	○	○	○	○

- *42.03% of the respondents answered that they have few **social networking** apps installed, 37.68% answered that they have few **work communication** apps installed, 47.83% answered that they have few **personal communication** apps installed, 43.48% answered that they have no **business related** apps installed and 33.33% answered that they have few **leisure apps** installed. (Please refer to Graph 1.3.)*

Tallying the number of mobile applications in your gadgets, identify the range of your installed applications for each category
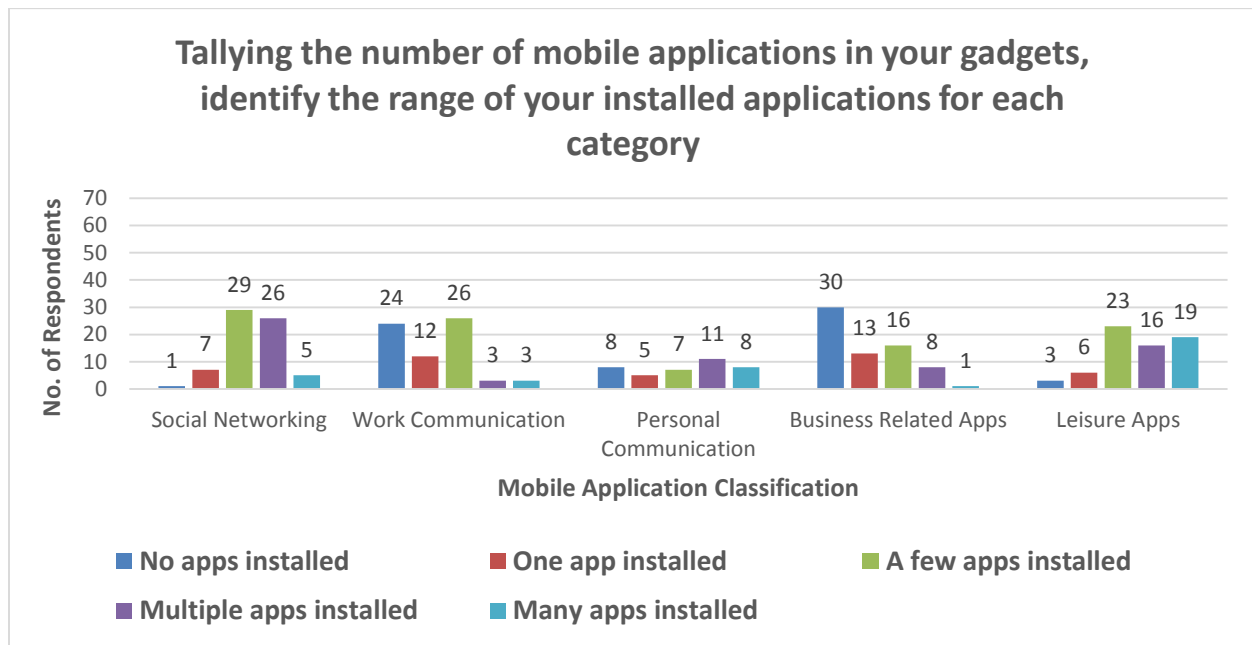
Graph 1.3

6. Does your company require you to use specific mobile applications for work?

- Yes
- No
- At times/it depends(Please Explain)

  - *65.22% of the respondents answered that their employer **does not require** them to use any specific mobile applications for work and they are mostly females. (Please refer to Graph 1.3.)*

Does your company require you to use specific mobile applications for work?

2.89

7.25

24.64

65.22

■ YES ■ NO ■ AT TIMES / IT DEPENDS ■ NO ANSWER
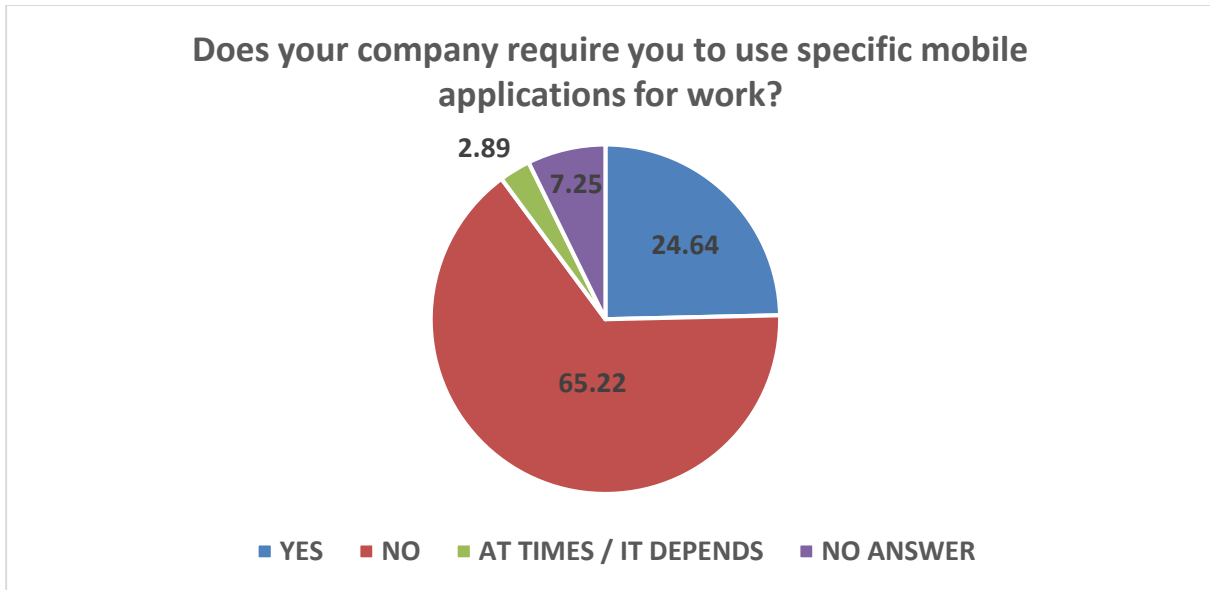
Graph 1.4

7. Do you download apps for the security of your mobile gadget?

- Yes
- No
  - *57.97% or exactly 40 of the respondents answered that they download security apps for their mobile gadget and they are mostly females.* **(Please refer to Graph 1.5.)**

Do you download apps for the security of your mobile gadget?

34.78%

57.97%

■ YES ■ NO
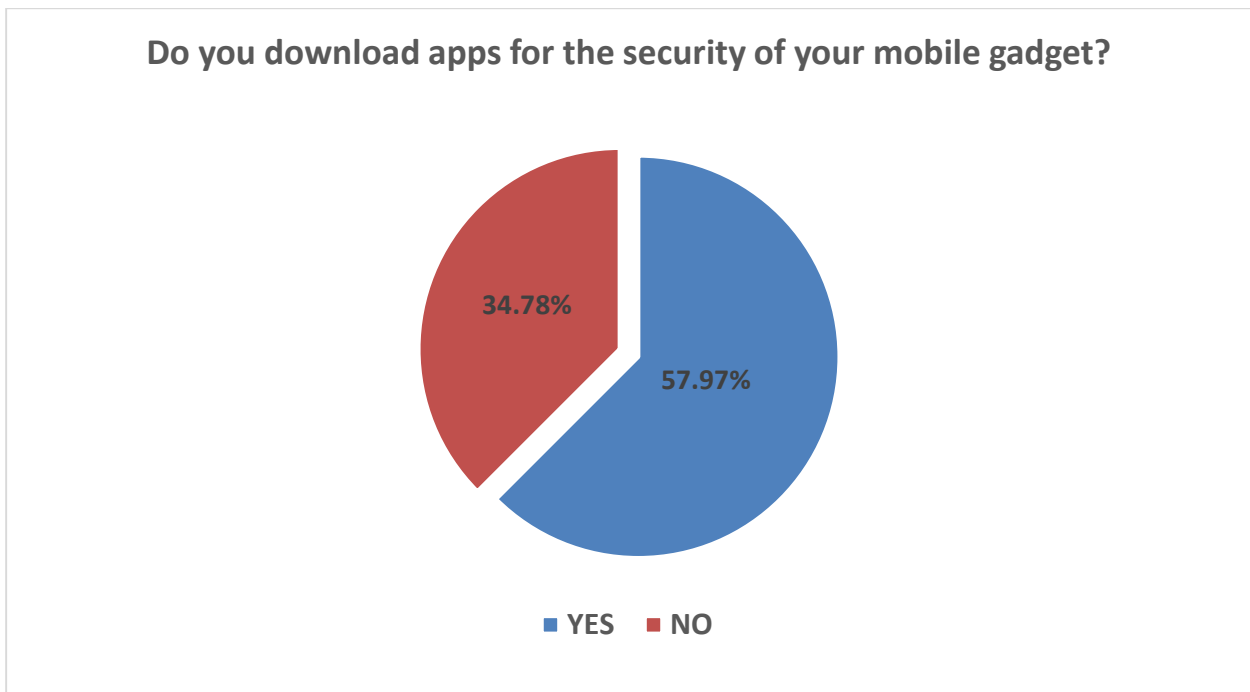
Graph 1.5

8. From the list below, select the fields where mobile apps are being used in your industry:

- Marketing

- Advertising

- Business Processes (Tasks, Work Requirements, etc.)

- Communication

- Content Management (Upload, download of business files, etc.)
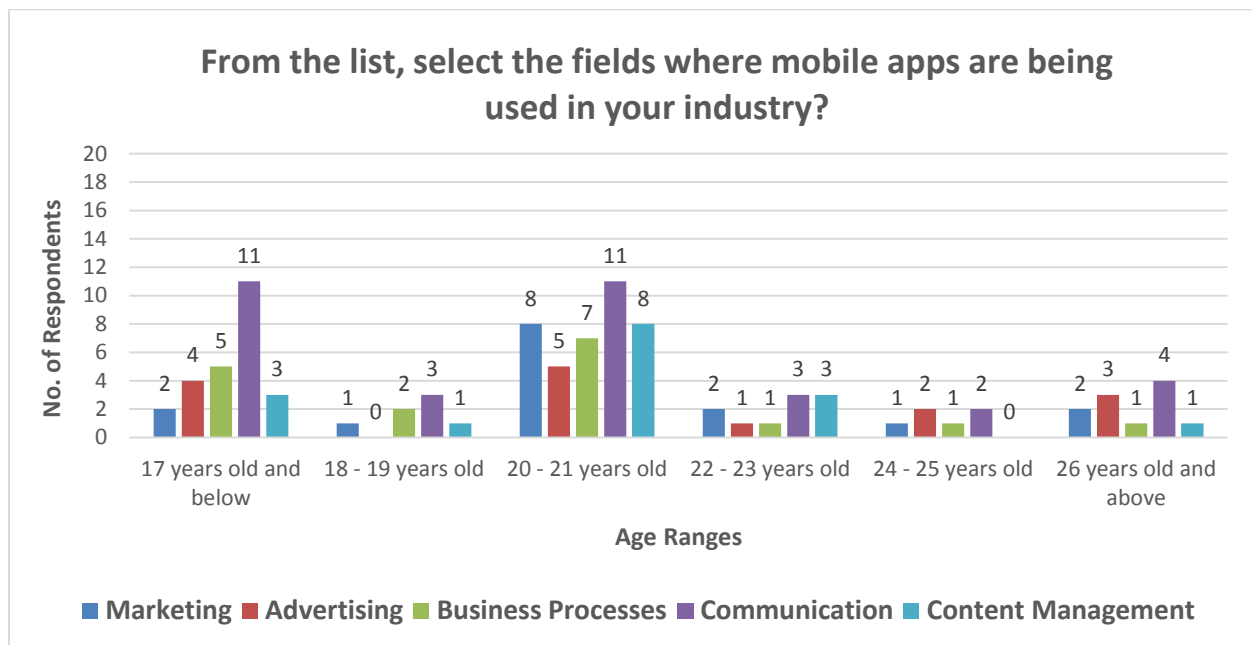
Graph 1.6

- 72.46% of the respondents believe that mobile apps are mostly used for **communication** purposes in the industry today. **(Please refer to Graph 1.6.)**

9. Are you interested to be involved in the designing of a mobile application? (User interface involvement, animation)

- Yes
- No
    - *The graph below shows that 60% of the respondents are interested to be involved in designing a mobile application and they are mostly in the age range of 17 to 21 years old.* **(Please refer to Graph 1.7.)**

Are you interested to be involved in the designing of a mobile application? (User interface involvement, animation)

7%

33%

60%

■ YES   ■ NO   ■ NO ANSWER
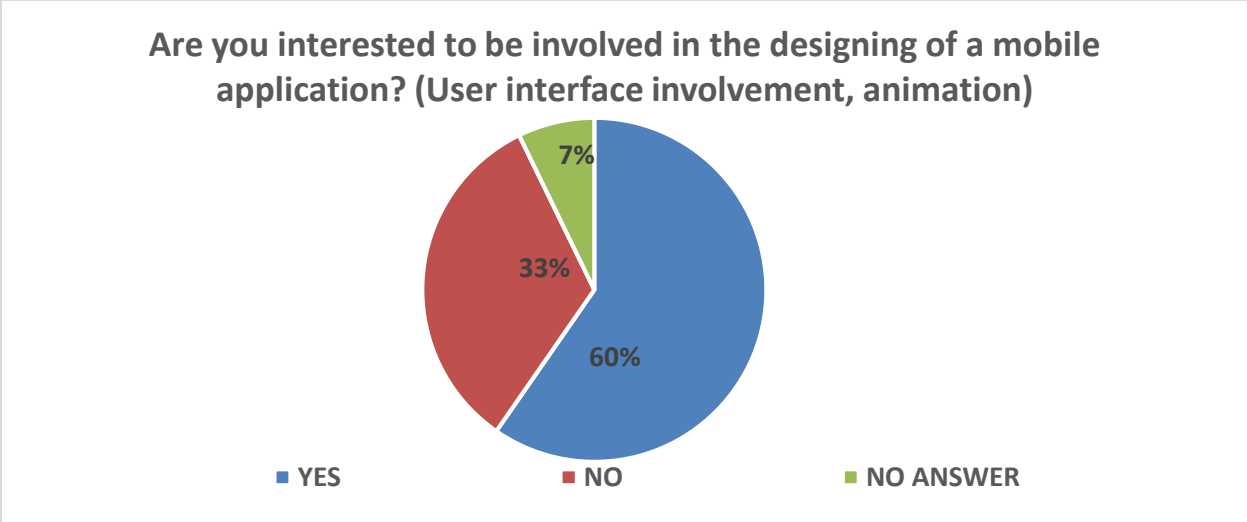
Graph 1.7

10. **Are you interested to be involved in the development of mobile applications? (Programming/coding or the functionality aspect of the application)**

o Yes
o No

- *The graph below shows that 57% of the respondents are interested to be involved in developing mobile applications and they are mostly in the age range of 17 to 21 years old.* ***(Please refer to Graph 1.8.)***

Are you interested to be involved in the development of mobile applications? (Programming/coding or the functionality aspect of the application)

7%

36%

57%

■ YES   ■ NO   ■ NO ANSWER
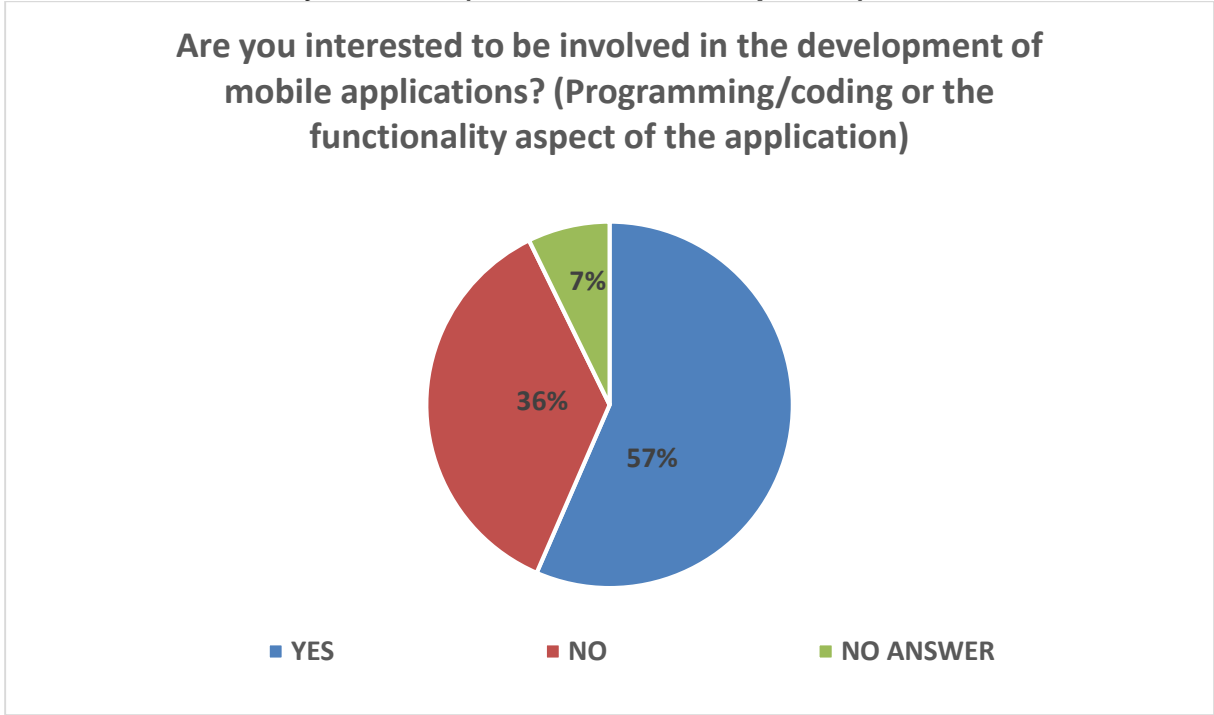
Graph 1.8

For people who answered **NO:**

In the 79 total respondents, 10 of them answered NO for the main question, 4 out of 10 are males while the remaining 6 are females.

1. Please select the appropriate range for your age.

- 17 and below
- 18 – 19
- 20 -21
- 22 – 23
- 24 – 25
- 26 and above

  - *It also shows that in the 10 respondents who answered NO, none of them are from the age range 17 and below, 3 of them are from 18 to 19 years old, 4 of them are from 20 to 21 years old, none are from 22 to 23 years old, 2 are from 24 – 25 years old and the remaining respondent is from age range 26 and above.*

2. Please select your gender:

- Male
- Female

  - *Analyzing the total number of respondents for those who answered NO, 4 out of 10 are males while the remaining 6 are females.*

3. When you visit your Local Application Store, do you look for apps that you can use for studies / for work, aside from leisure applications?

- Yes
- No

  - *60% of respondents answered that they look for applications they can use for studies or work aside from leisure applications. (Please refer to Graph 1.9)*

When you visit your Local Application Store, do you look for apps that you can use for studies / work, aside from leisure applications?
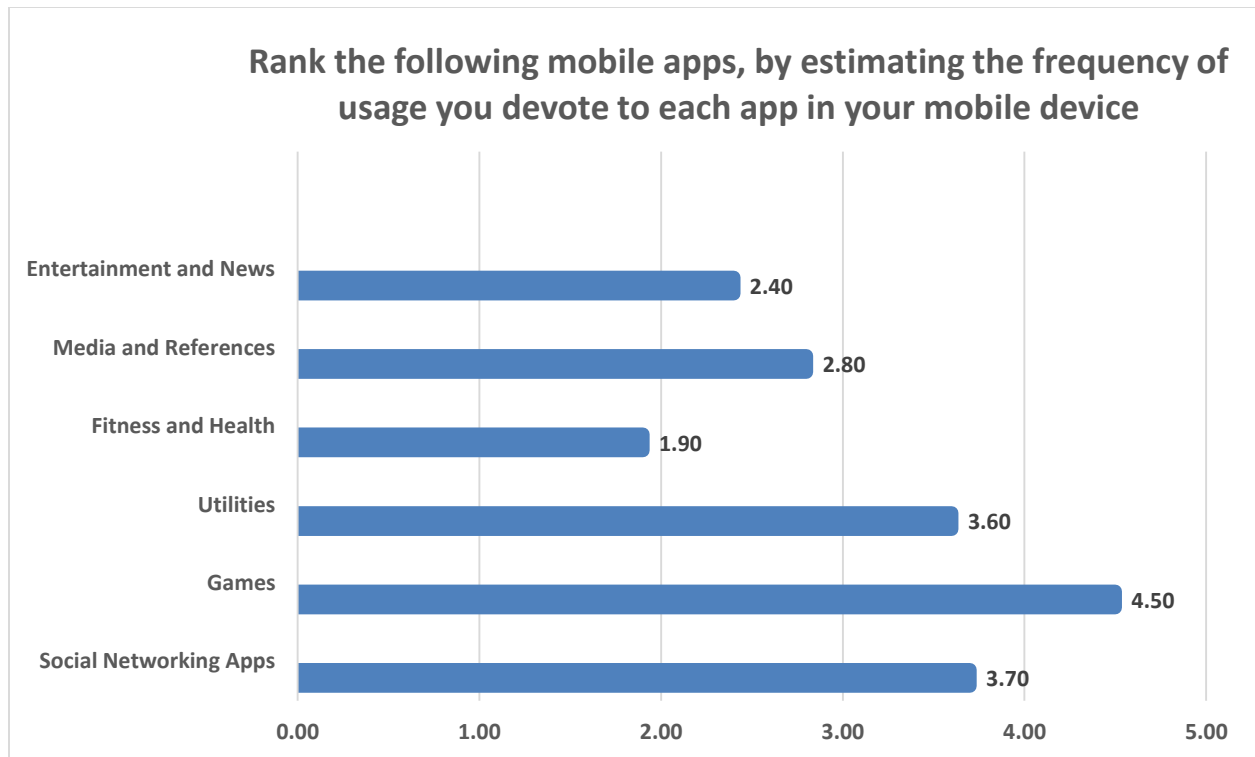

■ YES ■ NO
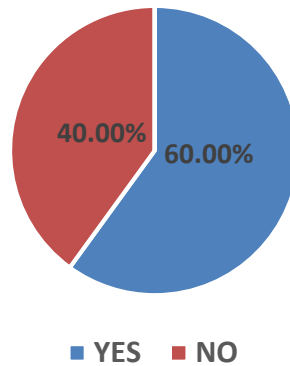
Graph 1.9

4. Rank the following mobile apps, by estimating the frequency of usage you devote to each app in your mobile device

___ Social Networking   ___ Games   ___ Utilities   ___ Fitness & Health

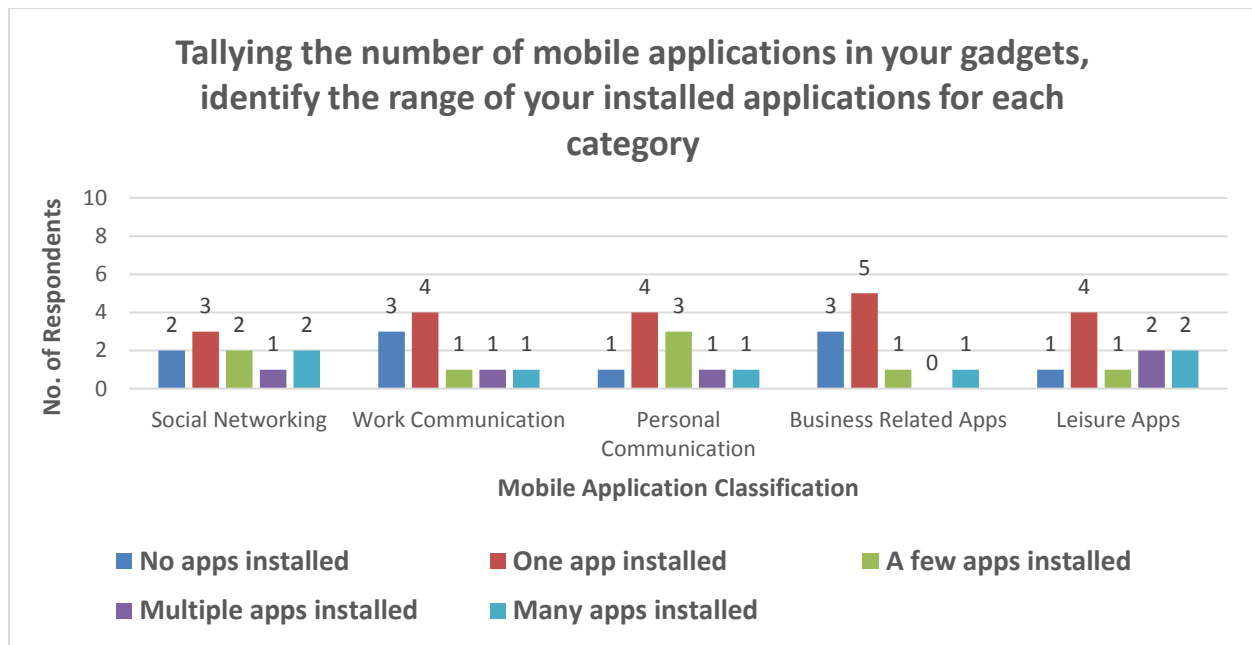___ Media & References (Music, Videos, Books)   ___ Entertainment & News

- *The graph below shows that* **gaming apps** *are the most frequently used type of mobile application based on the gathered data. On the other hand,* **fitness and health apps** *are not that used. (Please refer to Graph 2.0)*

Rank the following mobile apps, by estimating the frequency of usage you devote to each app in your mobile device

Category	Value
Entertainment and News	2.40
Media and References	2.80
Fitness and Health	1.90
Utilities	3.60
Games	4.50
Social Networking Apps	3.70

Graph 2.0

5. Tallying the number of mobile applications in your gadgets, identify the range of your installed applications for each category

	No apps installed	One app installed	A few apps installed	Multiple apps installed	Many apps installed
Social Networking Apps	○	○	○	○	○
Work Communication Apps	○	○	○	○	○
Personal Communication Apps	○	○	○	○	○
Business Related Apps	○	○	○	○	○
Leisure Apps	○	○	○	○	○

Tallying the number of mobile applications in your gadgets, identify the range of your installed applications for each category

No. of Respondents

	Social Networking	Work Communication	Personal Communication	Business Related Apps	Leisure Apps
No apps installed	2	3	1	3	1
One app installed	3	4	4	5	4
A few apps installed	2	1	3	1	1
Multiple apps installed	1	1	1	0	2
Many apps installed	2	1	1	1	2

Mobile Application Classification

- ■ No apps installed
- ■ One app installed
- ■ A few apps installed
- ■ Multiple apps installed
- ■ Many apps installed

Graph 2.1

6. Do you use your mobile gadget to do your essays, reaction papers, business files and other paper work that requires a one to two page submission?

○ Yes

○ No

○ At times / it depends (please explain)

[   ]

- *The graph below shows that **majority** of the respondents' use their mobile applications for paper works. (Please refer to Graph 2.2)*

Do you use your mobile gadget to do your essays, reaction papers, business files and other paper work that requires a one to two page submission?
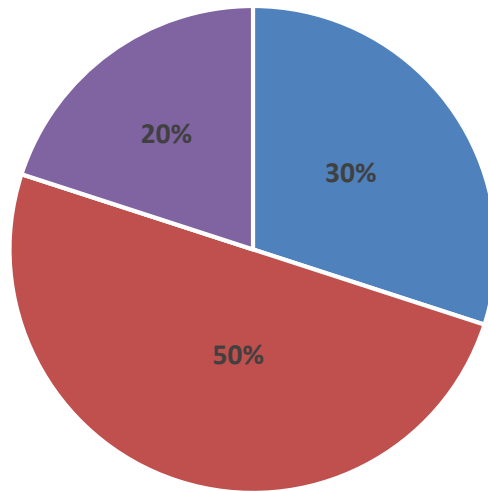
Legend: ■ YES ■ NO ■ IT DEPENDS ■ NO ANSWER

Graph 2.2

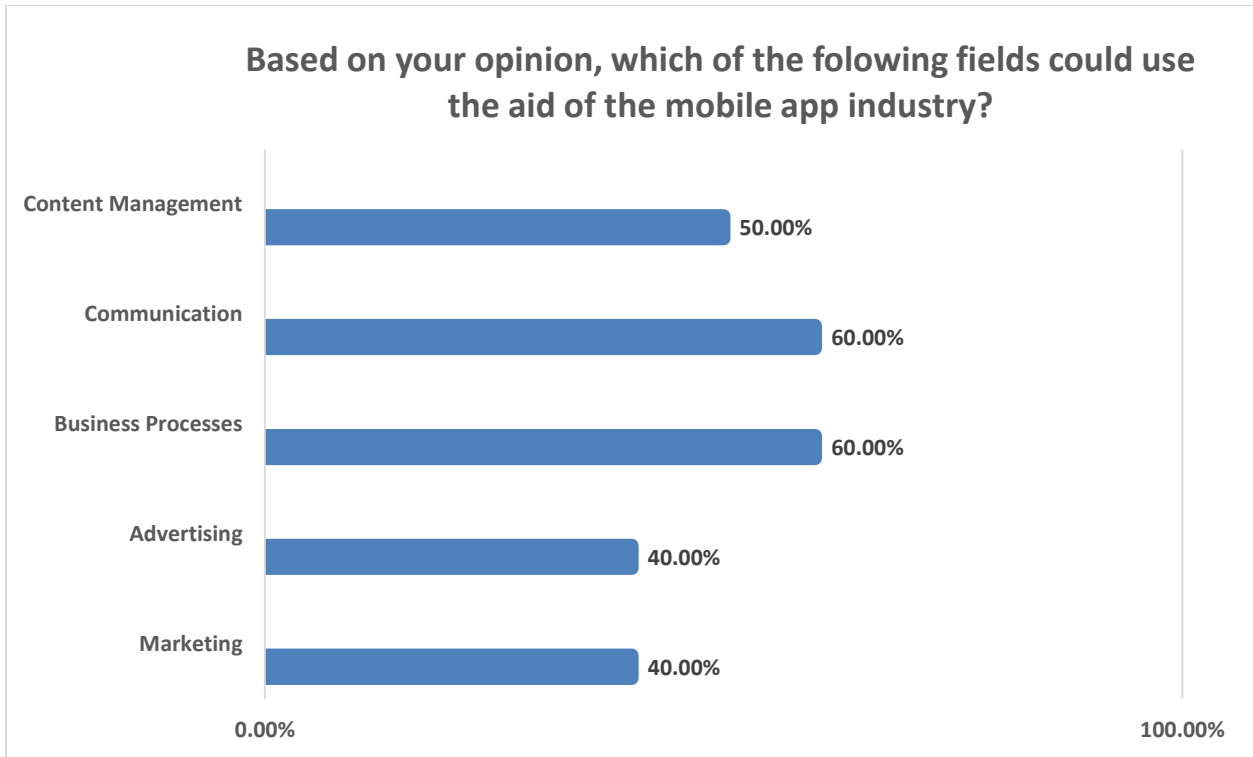6. **Do you download apps for the security of your mobile gadget?**

- Yes
- No

Do you download apps for the security of your mobile gadget?

NO ANSWER, 20%

50.00%

30.00%

■ YES   ■ NO
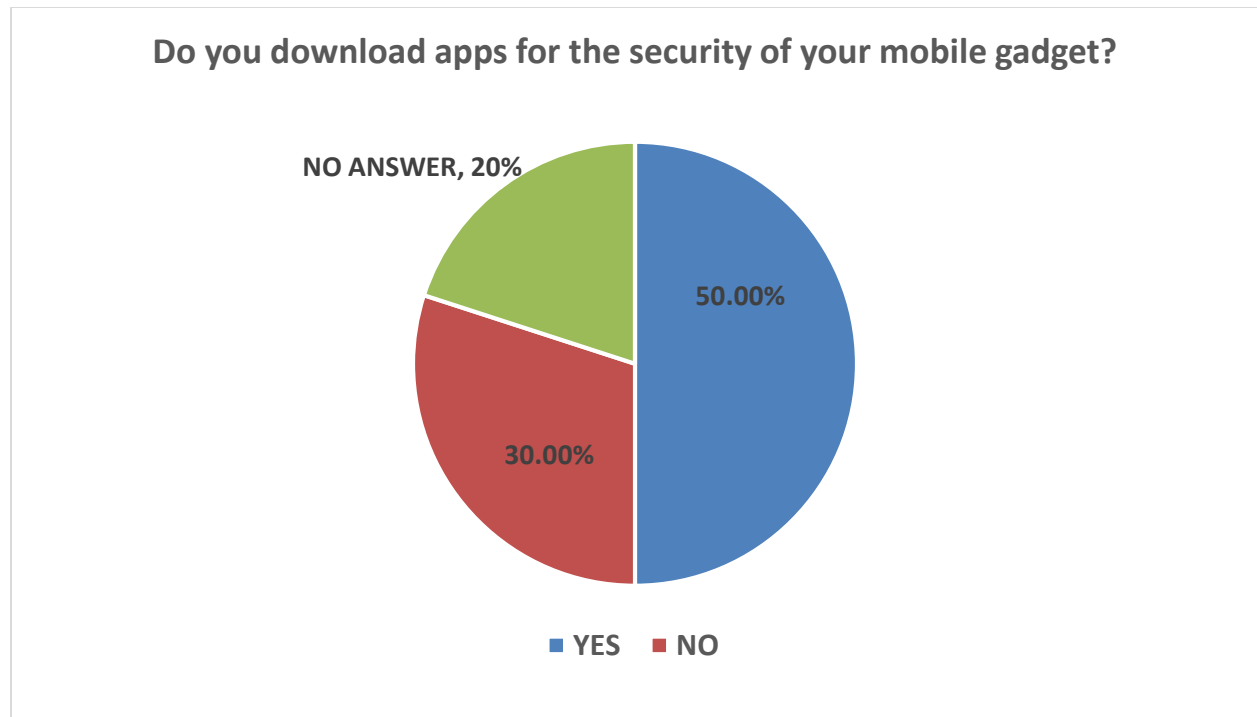
Graph 2.3

- *Half of the respondents said that they download security apps for their mobile gadgets. (Please refer to Graph 2.3)*

8. Based on your opinion, which of the following fields could use the aid of the mobile app industry? Check all that apply.

- Marketing
- Advertising
- Business Processes (Tasks, Work Requirements, etc)
- Communication
- Content Management (Upload, download of business files, etc)

Based on your opinion, which of the folowing fields could use the aid of the mobile app industry?

Field	Percentage
Content Management	50.00%
Communication	60.00%
Business Processes	60.00%
Advertising	40.00%
Marketing	40.00%

0.00%   100.00%

Graph 2.4

- *Based on the gathered data, mobile applications can greatly help in the fields of business processes and communication. (Please refer to Graph 2.4)*

9. Are you interested to be involved in the designing of a mobile application? (User interface involvement, animation)

- **Yes**
- **No**

  - *Half of the respondents have interest in being involved in the designing of a mobile application. (Please refer to Graph 2.5)*
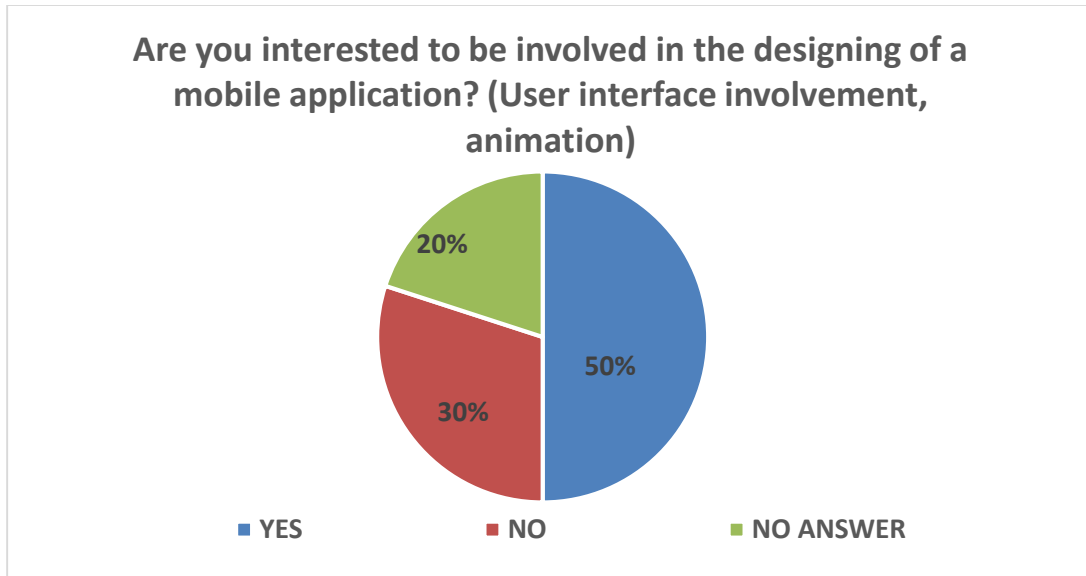
Graph 2.5

10. Are you interested to be involved in the development of mobile applications? (Programming/coding or the functionality aspect of the application)

- *40% of the respondents are interested to be involved in the development of a mobile application. Another 40% of the respondents are not interested at all while the remaining 20% didn't answer the question. (Please refer to Graph 2.5)*
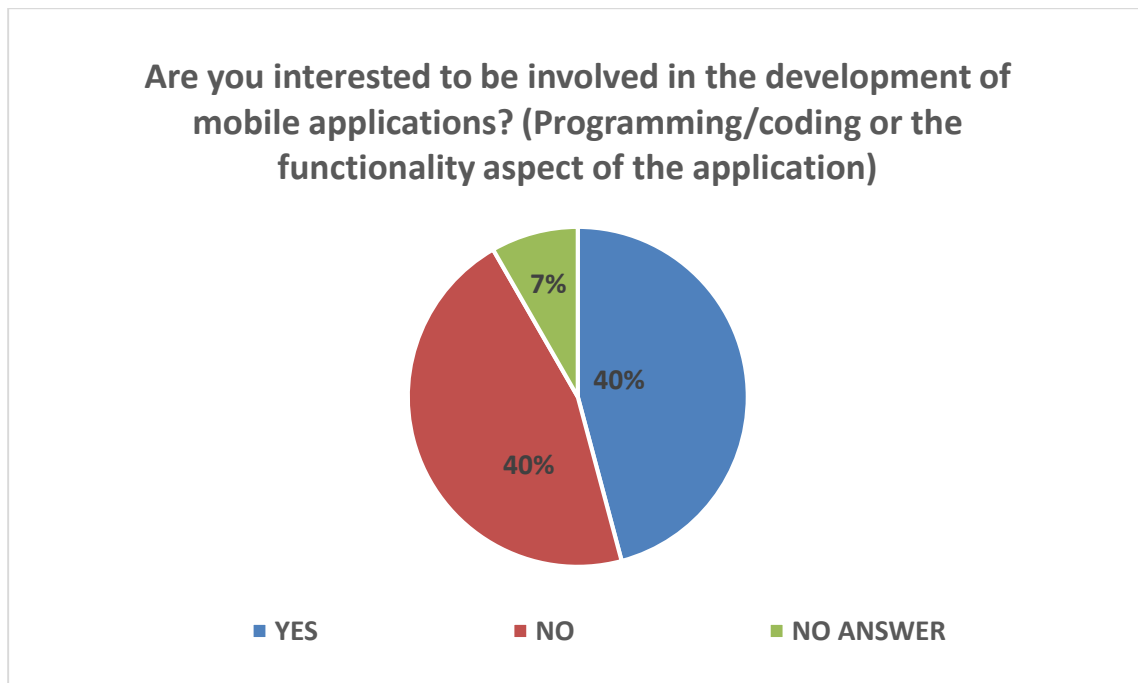
Graph 2.6

Survey for Designer Related Respondents

The total number of respondents who answered the Business related survey on both online and paper is 52. 21 of the population are male while the remaining 31 are female.

1. Please select the appropriate range for your age.

- 17 and below
- 18 – 19
- 20 -21
- 22 – 23
- 24 – 25
- 26 and above

  - *Evaluating the 52 respondents, it shows that 2 of them are from the age range 17 and below, 10 of them are from 18 to 19 years old, 16 of them are from 20 to 21 years old, 4 are from 22 to 23 years old, 3 are from 24 – 25 years old and the remaining 17 are from age range 26 and above.*

2. Please select your gender:

- Male
- Female
  - *The population for Designers is consist of 21 male respondents and 31 female respondents.*

3. As a person in the field of Designing, given the opportunity to choose between web designing and mobile application designing, which of the two would be your choice?
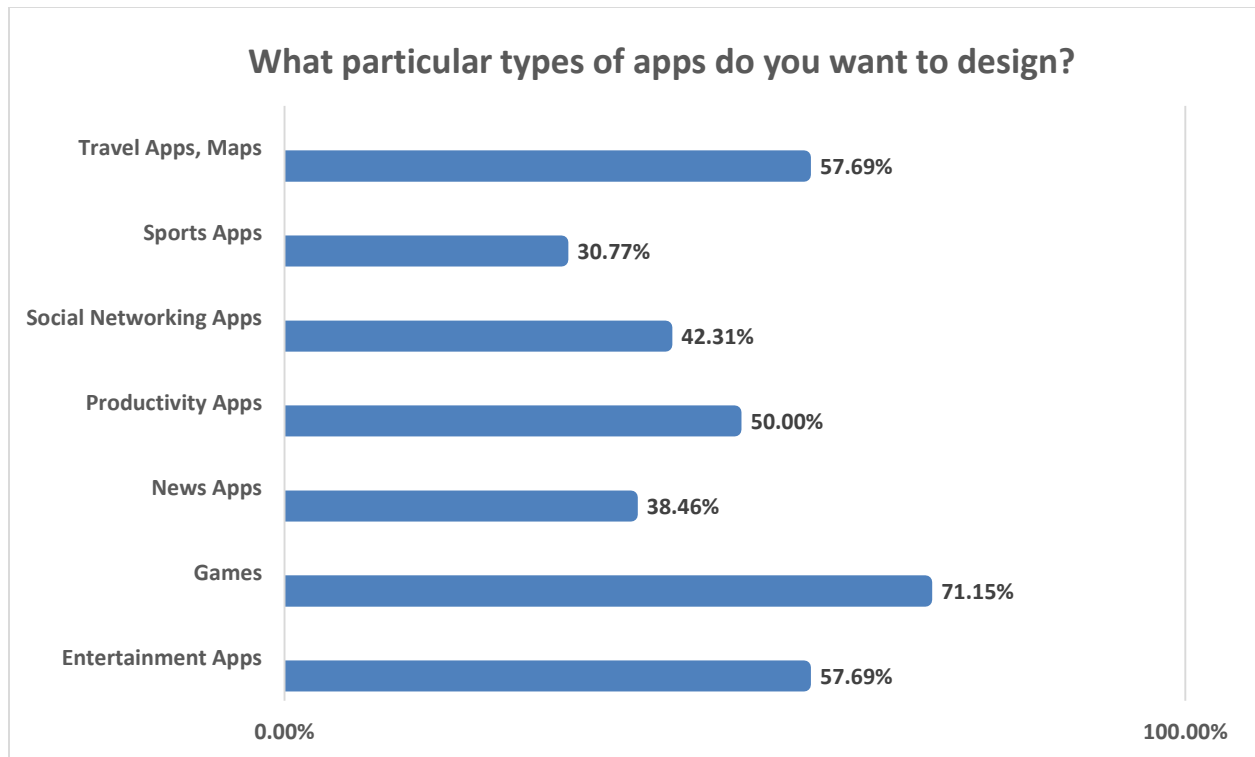
- **Web Designing**
- **Mobile Application Designing**
- **It Depends / It's Complicated (Please explain)**

  - *The graph below shows that 62% or exactly 32 of the respondents wanted to be in the Mobile Application designing industry when given the chance. (Please refer to Graph 2.7)*

As a person in the field of Designing, given the opportunity to choose between web designing and mobile application designing, which of the two would be your choice?

■ Web Designing   ■ Mobile Application Designing   ■ It depends / It's complicated
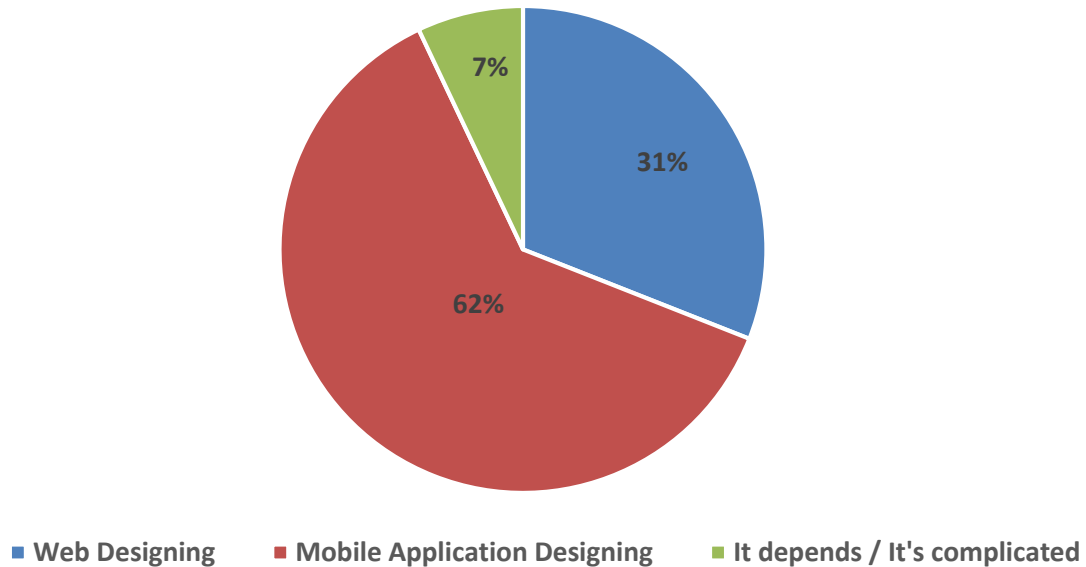
Graph 2.7

4. **What particular types of apps do you want to design? (Check all that apply.)**

- Entertainment Apps
- Games
- News Apps
- Productivity Apps
- Social Networking Apps
- Sports Apps
- Travel Apps, Maps

- *The graph below shows that 71.15% of the respondents wanted to design **gaming apps**. (Please refer to Graph 2.8)*

What particular types of apps do you want to design?

App Type	Percentage
Travel Apps, Maps	57.69%
Sports Apps	30.77%
Social Networking Apps	42.31%
Productivity Apps	50.00%
News Apps	38.46%
Games	71.15%
Entertainment Apps	57.69%

0.00%　　　　　　　　　　　　　　　　　　　　　100.00%

Graph 2.8

5. Tallying the number of applications in your mobile gadgets, identify the range of your installed applications for each category

|	No application installed	One application installed	A few applications installed	Multiple applications installed	Many applications installed
Social Networking Apps	○	○	○	○	○
Work Communication Apps	○	○	○	○	○
Personal Communication Apps	○	○	○	○	○
Work - related / Design Apps	○	○	○	○	○
Leisure Apps	○	○	○	○	○
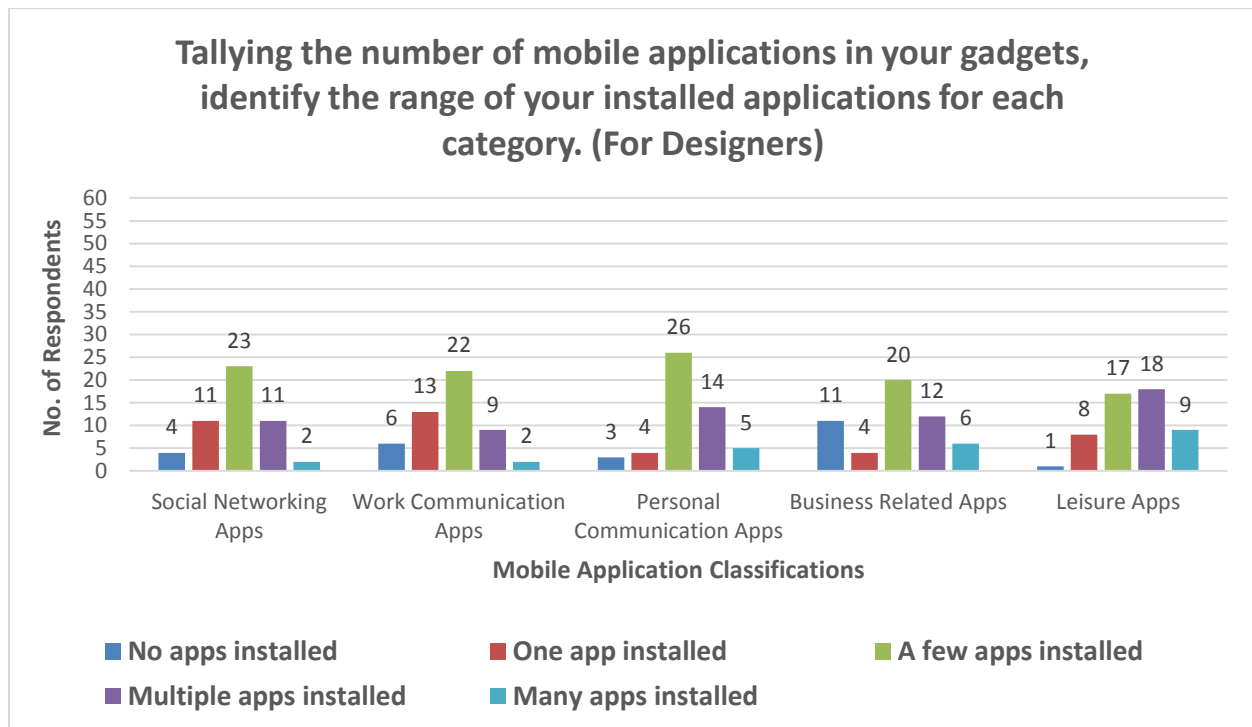
Graph 2.9

6. Which particular mobile Operating System, would you be interested in designing a mobile application for?

- Android
- iOS
- Windows
- Blackberry
- Other (Please specify)

  - *Majority of the respondents wanted to design mobile applications for the **Android OS**. (Please refer to Graph 3.0)*
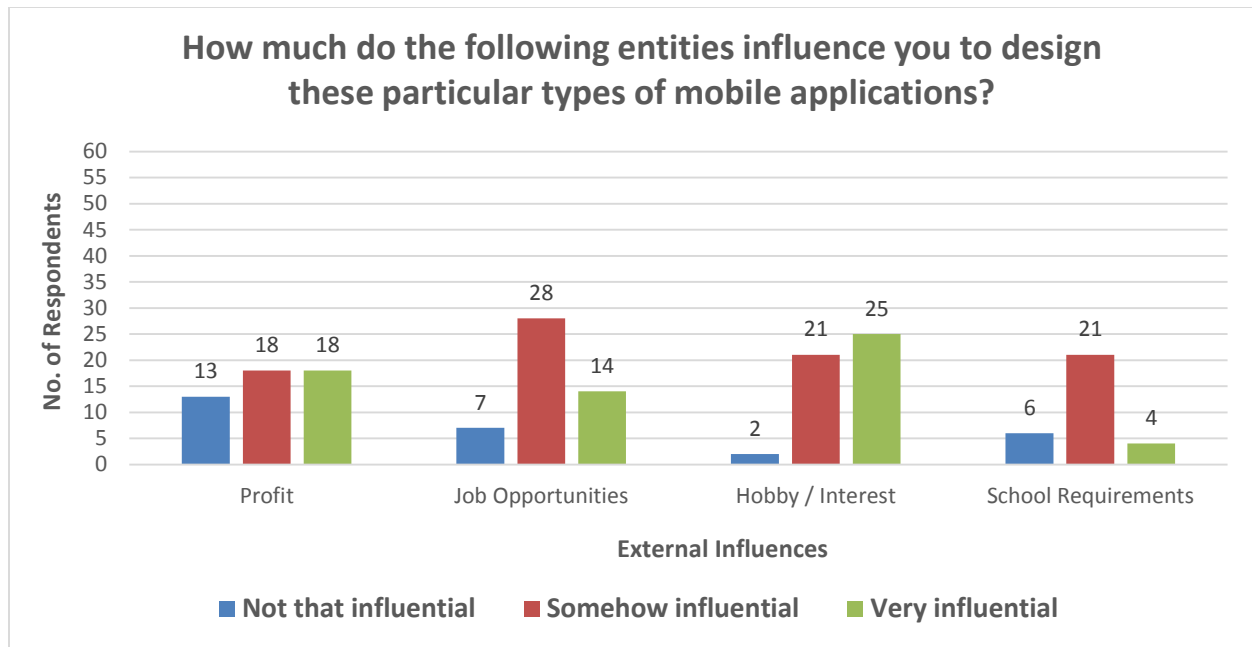
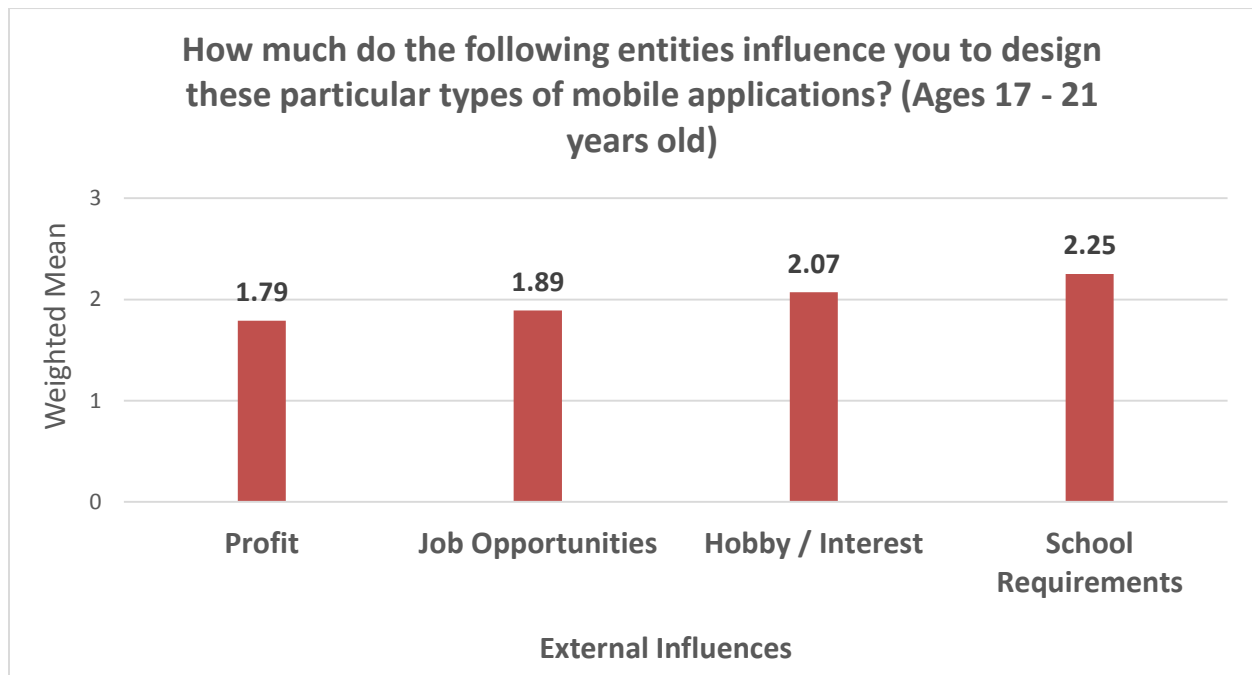**Which particular mobile Operating System, would you be interested in designing a mobile for?**

63%

27%

6%

4%

■ Android   ■ iOs   ■ Windows   ■ Blackberry   ■ Others OS   ■ Didn't answer
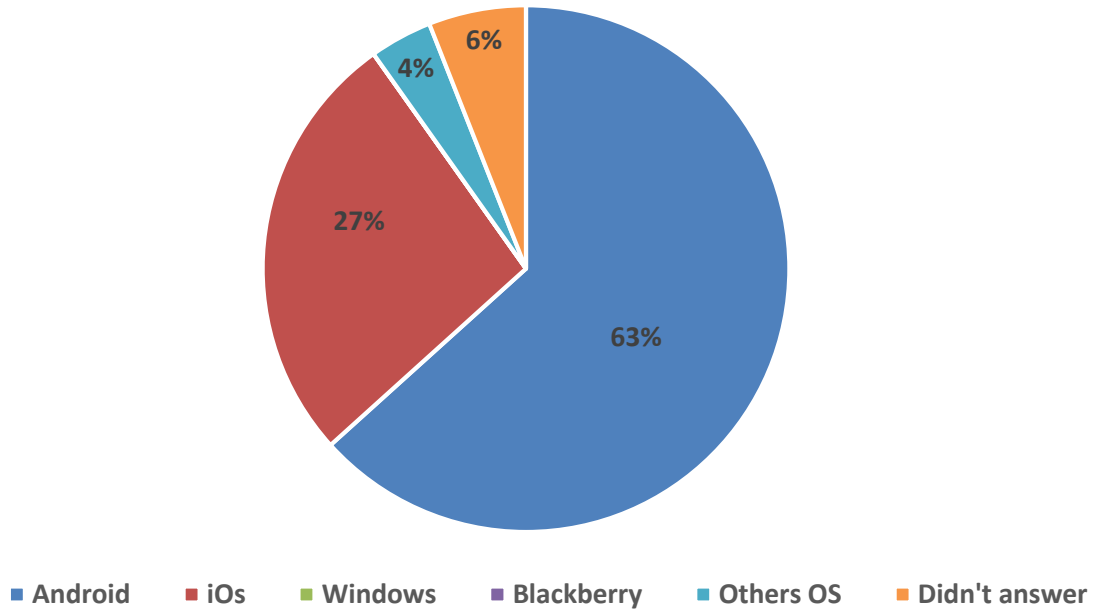
Graph 3.0

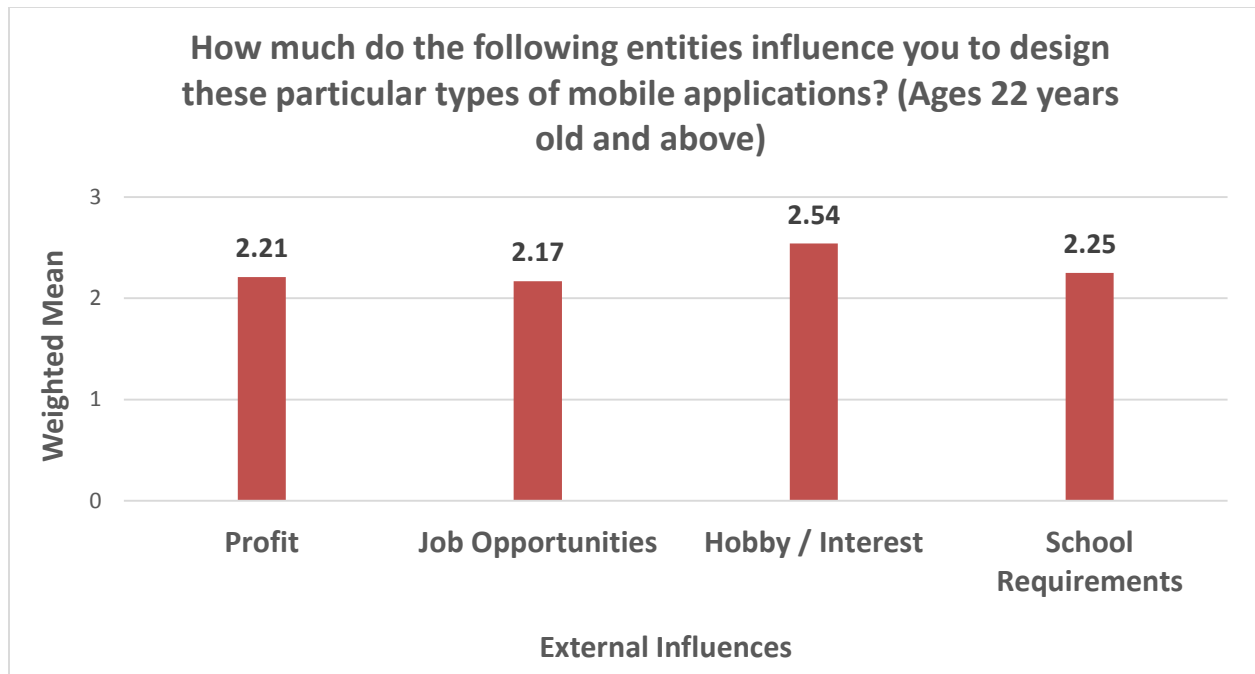**7. How much do the following entities influence you to design these particular types of mobile applications?**

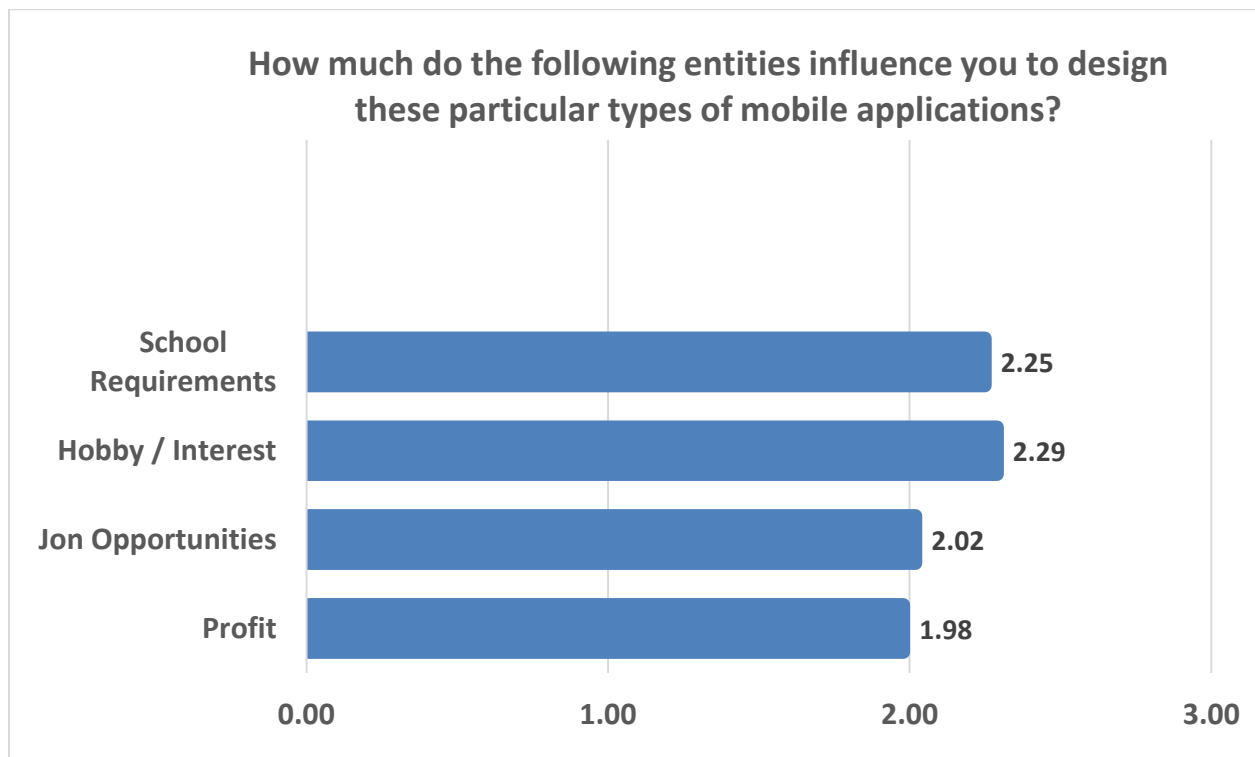|	Not that influential	Somehow influential	Very influential
Profit (i.e. clients)	○	○	○
Job Opportunities (i.e. employer, companies)	○	○	○
Hobby / Interest (i.e. friends, self - interest)	○	○	○
School Requirement (i.e. professors, advisers, mentors)	○	○	○

Graph 3.1

Graph 3.2

How much do the following entities influence you to design these particular types of mobile applications? (Ages 22 years old and above)

Weighted Mean

Profit	2.21
Job Opportunities	2.17
Hobby / Interest	2.54
School Requirements	2.25

External Influences

Graph 3.3

How much do the following entities influence you to design these particular types of mobile applications?

School Requirements	2.25
Hobby / Interest	2.29
Jon Opportunities	2.02
Profit	1.98

Graph 3.4

8. Arrange the following aspects in accordance to the level of consideration that you allot when designing mobile applications. (1 is the highest)
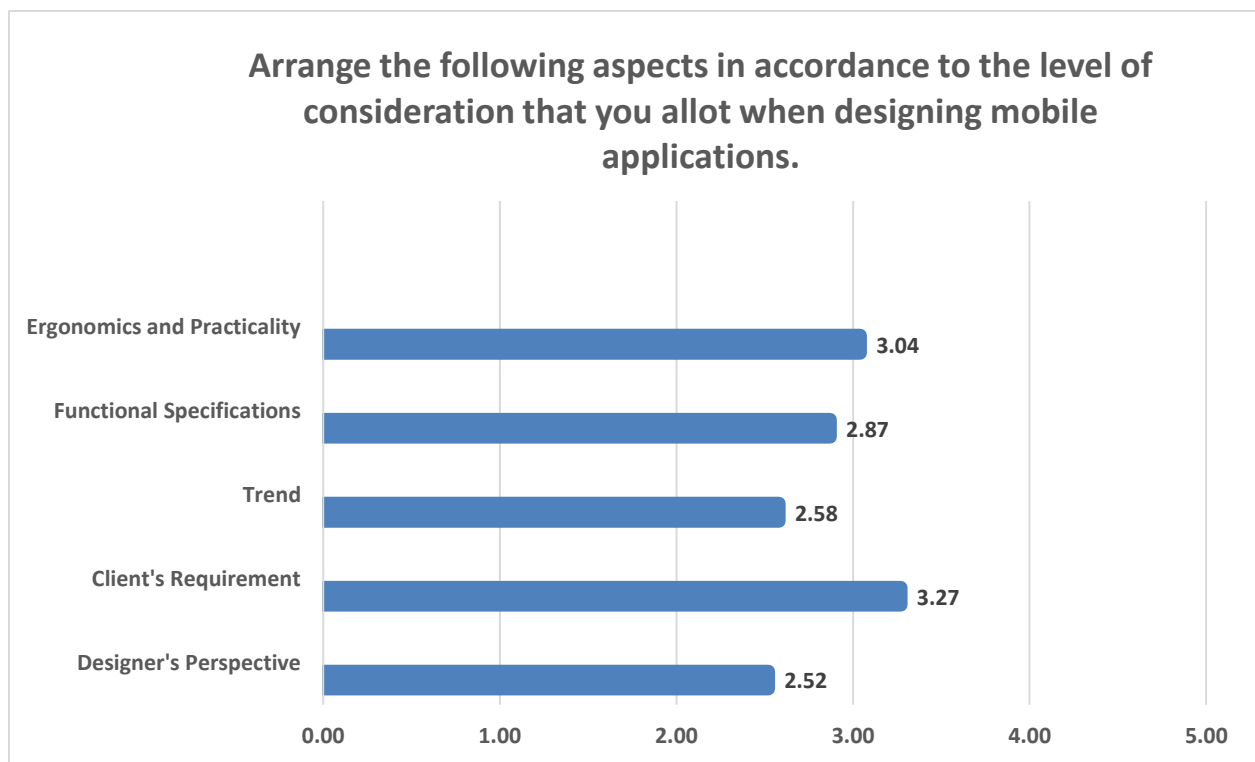
_____ Designer's (your) perspective

_____Client's requirement

_____Trend

_____Functional Specifications

_____Ergonomics and practicality

- _The graph below shows that the requirements of the client must be taken into consideration the most. (Please refer to Graph 3.5)_

Graph 3.5

9. In your opinion, which of the following should a designer devote more effort / focus on?
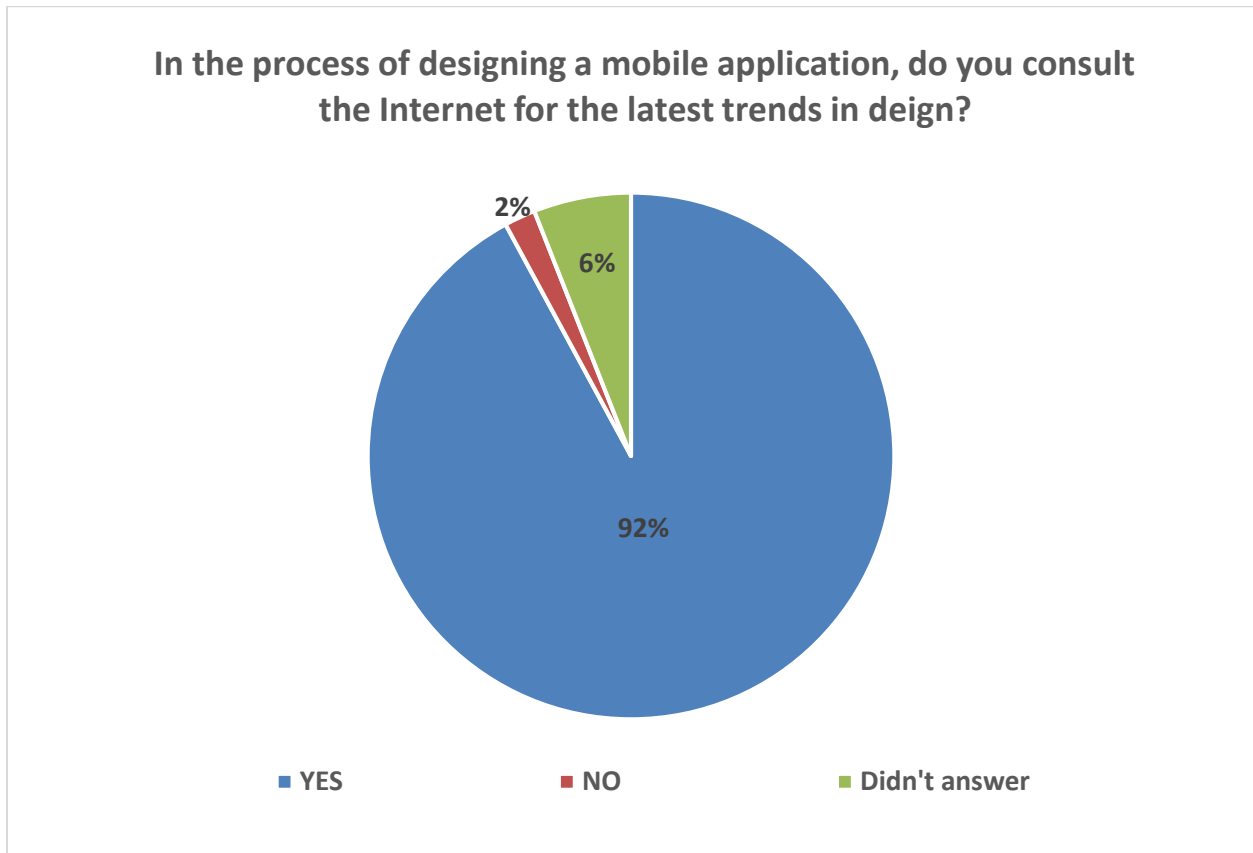
- User Interface (UI)
- User Experience (UX)
  - *The graph below shows that a designer should devote more effort / focus on the User Experience (UX) of the mobile application. (Please refer to Graph 3.6)*

In your opinion, which of the following should a designer devote more effort / focus on?

21%

6%

73%

■ User Interface (UI) ■ User Experience (UX) ■ Didn't answer
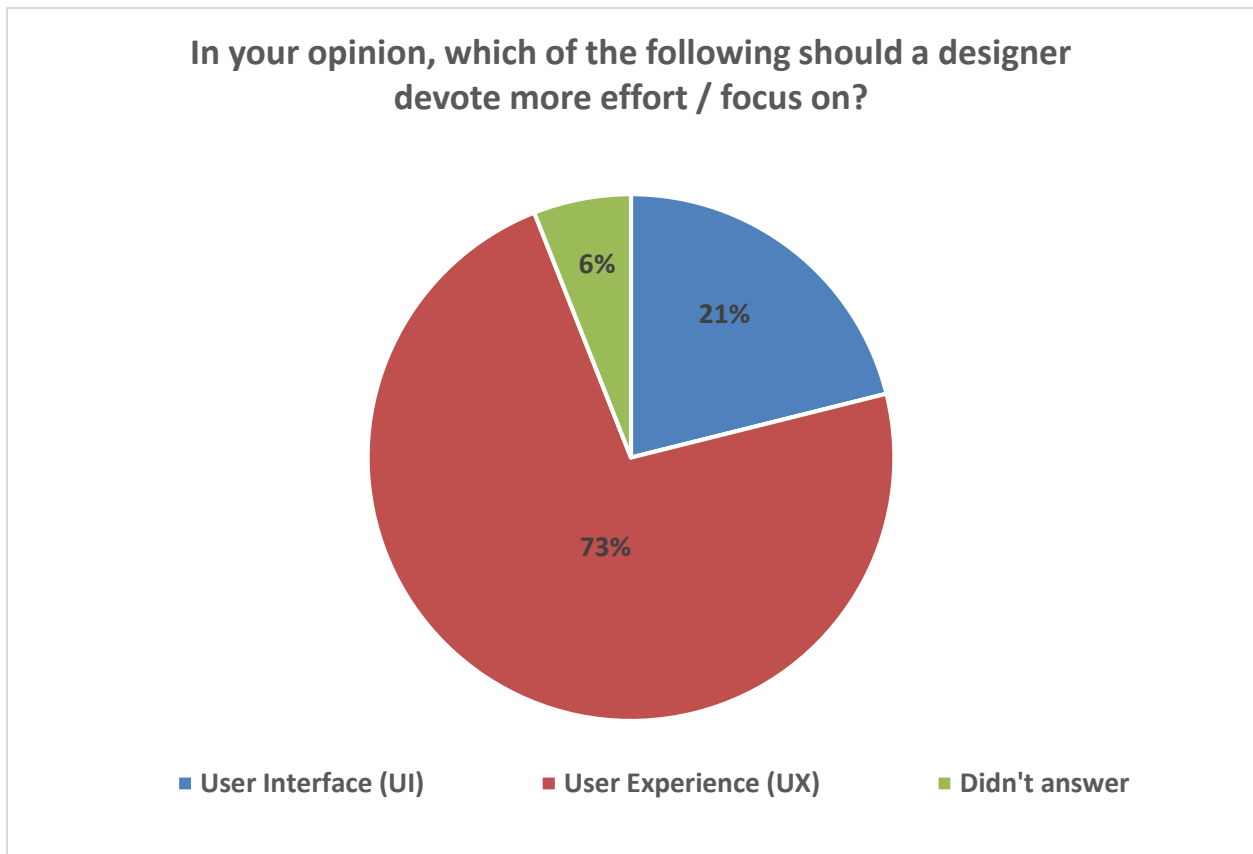
Graph 3.6

10. In the process of designing a mobile application, do you consult the internet for the latest trends in design?

- Yes
- No

- *The graph below shows that 92% of the respondents consult the Internet for the latest trends in design. (Please refer to Graph 3.7)*

Graph 3.7