

## Implementing online questionnaires and surveys by using mobile applications

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### Abstract

Online questionnaires and surveys are one of the most efficient methods that are used by people all around the world for statistics, to ask questions and to evaluate something; however, this is because of its benefits, like reducing time, getting real answers apart from manipulation or fake results, and it is easy for everyone to use. There are a lot of online survey forms found on Google and using these e-forms are easy; all that one has to do is open the site, register through email and then choose the type of survey one wants to fill in. However, despite the plurality of e-forms, it is essential for companies to have special forms that are relevant to office work and the nature of work conducted by the companies; the forms should also be specific to be used by the companies' managers and employees. The aim of this study is to create an online questionnaires and surveys website that is specifically to be used by companies. This website makes the work of the companies more efficient and faster; so if they want to evaluate the performance of anything or ask the employees about something or to vote, they can easily use our new website.

**Keywords:** Online application, questionnaires and surveys, NetBeans.

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## 1. Introduction

For the past few years, the Internet has been used by many companies in conducting all sorts of studies all over the world. Whether it is market or scientific research, the online survey has been a faster way of collecting data from respondents when compared to other survey methods, such as the paper-and-pencil method and personal interviews.

Online survey or internet survey is one of the most popular data collection sources, where a set of survey questions is sent out to a target sample and the members of this sample can respond to the questions over the World Wide Web. Respondents receive online surveys via various mediums, such as email, embedded over website, social media etc. A questionnaire is a series of questions used for gathering information that is used to benefit a single individual. While more than one individual might complete the questionnaire, the responses are not aggregated for analysis. A survey, on the other hand, is a process of gathering information for statistical analysis to benefit a group of individuals. The responses are aggregated to draw a conclusion. In other words, a survey is the process of collecting and analysing data, where the questionnaire is the set of questions used to gather the information.

Organisations implement online surveys to use the internet in order to gain insights and feedback about upcoming products or services, change in marketing strategies, enhancement in current features etc. With the progress made by the internet, more and more organisations depend on the data received and analysed from online surveys to make integral changes in their functioning. For efficient data collection, organisations must choose an advanced and efficient online survey platform.

The primary reason for the growth seen in the implementation of online surveys is that they are extremely low cost and conducting an online survey is convenient due to the sheer magnitude of reach. Over the past decade, researchers have started preferring conducting surveys using an online survey tool wherein they can send out surveys from their desktops or laptops and their target audience can respond to these surveys whenever possible.

## 2. Aims of developing the application questionnaires and surveys

- Because of the growth seen in the implementation of online surveys, we decided to create an online questionnaires and surveys website that is specifically to be used by companies. This website makes the work of the companies more efficient and faster; so if they want to evaluate the performance of anything or ask the employees about something or to vote, they can easily use our new website.
- The Questionnaires and Surveys website is an internal linkage between the head of the company and his employees.
- This application has a new login process, specific characteristics and many deeds.

## 3. Previous studies about online questionnaires and surveys

### 3.1. Google forms

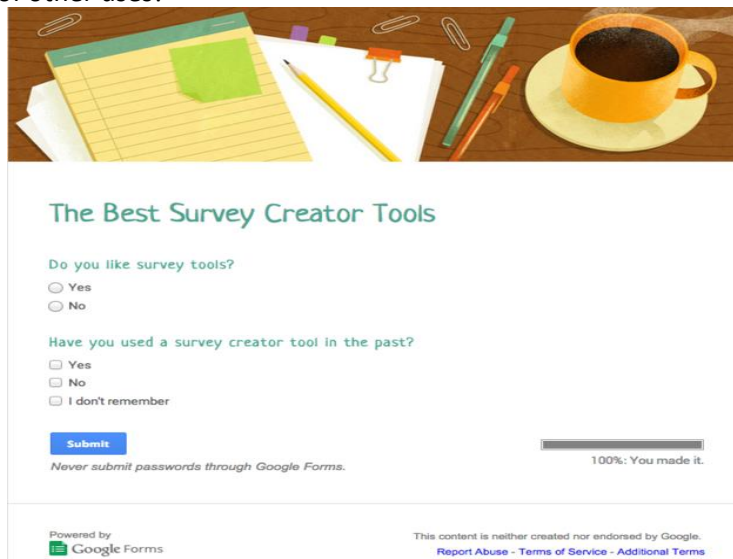
Google Forms is a survey administration app that is included in the Google Drive's office suite along with Google Docs, Google Sheets and Google Slides. Forms features all of the collaboration and sharing features found in Docs, Sheets and Slides. Google Forms is a tool that allows collecting information from users via a personalised survey or quiz. The information is then collected and automatically connected to a spreadsheet. The spreadsheet is populated with the responses from the survey and quiz. The Forms service has undergone several updates over the years. New features include, but are not limited to, menu search, shuffle of questions for randomised order, limiting responses to once per person, shorter URLs, custom themes, automatically generating answer suggestions when creating forms and an 'Upload file' option for users answering questions that require them to share content or files from their computer or Google Drive. The upload feature is only

available through G Suite. In October 2014, Google introduced add-ons for Google Forms that enable third-party developers to make new tools for more features in surveys. In July 2017, Google updated Forms to add several new features. ‘Intelligent response validation’ is capable of detecting text input in form fields to identify what is written and ask the user to correct the information if wrongly input. Depending on the file-sharing settings in Google Drive, users can request for file uploads from individuals outside their respective company, with the storage cap initially set at 1 GB, which can be changed to 1 TB. A new checkbox grid enables multi-option answers in a table. In Settings, users can make changes that affect all new forms, such as always collecting email addresses.

### 3.2. Best eight online surveys

Online surveys are a great way to engage the audience and get feedback from them. One can use online surveys in any number of ways, like finding out what topics readers want to learn more about:

- Getting product feedback
- Conducting market research
- Getting customer service feedback
- Gauging employee satisfaction
- Plus plenty of other uses!



The Best Survey Creator Tools

Do you like survey tools?

Yes

No

Have you used a survey creator tool in the past?

Yes

No

I don't remember

Submit

Never submit passwords through Google Forms.

100%: You made it.

Powered by Google Forms

This content is neither created nor endorsed by Google.  
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Making an online survey is easy – there are many great online survey creators out there to help craft that super survey. Let us take a look at the options!

When it comes to online survey tools, one can choose between the free or paid route. If one is just looking to do some light audience research, then they should get on just fine with the free survey makers available online.

Usually, the paid versions offer added capabilities like:

- **Survey logic.** Survey logic uses information from previous answers to dictate the following questions. For example: *Do you have a dog?* If the user answers yes, then the next question might ask *what breed*. If the user answers no, then the breed question would be skipped.
- **Export data.** Many tools will not let data be exported unless it is paid for.
- **Custom logo.** Paid versions help get rid of the tool’s logo and instead we can add our own.

- **More question types.** Most free survey creators offer plenty of question options, like radio buttons selections, drop downs, rating scales etc. Usually, paid versions offer even more options, like the ability to select multiple options in a dropdown, star rankings, grids etc.

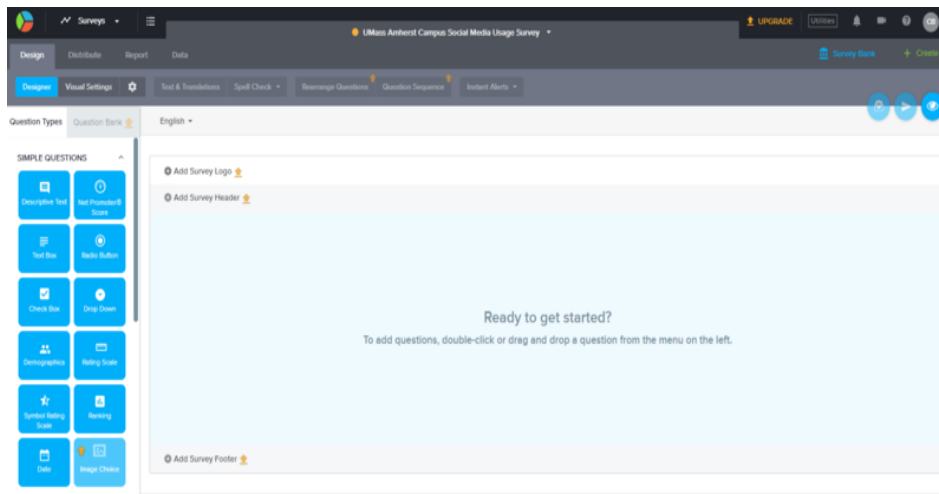
We took a look at the many survey tools available online and evaluated them to come up with our eight favourite, which are as follows:

- SoGoSurvey
- Survey Monkey
- Type form
- Google Forms
- Client Heartbeat
- Zoho Survey
- Survey Gizmo
- Survey Planet

Now, let us explore the online survey tools in greater detail.

### 3.2.1. SoGoSurvey

We begin with SoGoSurvey for one simple reason—as far as free survey tools go, there is no other tool that delivers *so much value*.



SoGoSurvey has an end-to-end survey design, distribution and analysis platform. Because it provides a full suite of functionalities, SoGoSurvey users will never need to find additional tools for survey-related tasks—even if they are not paying a cent.

Here is a (far from exhaustive) sample of the tasks that one can complete with the free SoGoSurvey account plan:

- Unlimited surveys
- Unlimited questions
- 24 unique question types
- Three skip logic/page branching freebies
- Ability to embed surveys into emails and web pages
- Up to 200 respondents per year
- Data export functionality (Word documents and CSV)

Best of all, SoGoSurvey does not put support behind a pay wall. Therefore, if a free user encounters a problem, they are entitled to 24/7 email customer service.

If they are looking to upgrade, here’s what they can pay and what they can get:

Plus \$299 / year	Pro \$480 / year	Premium \$1188 / year
<p>Buy now</p> <p>All Basic features and following:</p> <ul style="list-style-type: none"> <li>Simple branching</li> <li>Embed multimedia</li> <li>Prevent duplicate responses</li> <li>Multilingual surveys</li> </ul> <p>24/7 email support</p>	<p>See monthly plan</p> <p>Buy now</p> <p>All Plus features and following:</p> <ul style="list-style-type: none"> <li>Complete anonymity</li> <li>Advanced question types</li> <li>Rotate/Randomized to cut bias</li> <li>Advanced branching and survey logic</li> <li>Fully customizable email invitations</li> <li>Quiz with automatic scoring</li> </ul> <p>Expedited email support</p>	<p>BEST VALUE</p> <p>See monthly plan</p> <p>Buy now</p> <p>All Pro features and following:</p> <ul style="list-style-type: none"> <li>Rule-based email alerts</li> <li>Data pre-population</li> <li>Trend analysis</li> <li>White label solution</li> <li>Advanced reports</li> <li>1:1 onboarding</li> <li>Team collaboration</li> </ul> <p>Priority email, phone &amp; chat support</p>

### 3.2.2. Survey monkey

Probably the most well-known name in the realm of online survey tools, Survey Monkey is an obvious contender.



In the free version, the following are available:

- 10 questions
- 100 respondents
- 15 question types
- Light theme customisation and templates

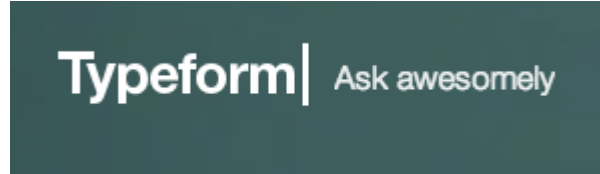
The system is well designed, pretty easy to use and one can embed surveys.

**The stinker: no exporting data.** Paid versions start at \$26/months, with more questions, more respondents and other features.

BASIC Free	SELECT \$26 per month <small>SAVE with an annual plan</small>	<b>MOST POPULAR</b> GOLD \$300 per year	PLATINUM \$780 per year
Sign Up >	Sign Up >	Sign Up >	Sign Up >
10 questions	✓	Unlimited questions	✓
100 responses	1000 responses*	Unlimited responses	✓
Standard email support	✓	Priority 24/7 email support	✓
	✓	Custom logos, colors & more	✓
	✓	Skip logic	✓
	✓	Cross-tabs & filters	✓
	✓	Export data & reports	✓
		A/B testing	✓
		Question & answer piping	✓
		Randomization	✓

### 3.2.3. Type form

Type form wins the championship belt for creative survey creation.



Type form's interface is elegant and its style is attractive, reflecting the company's motto, 'Asking questions should be easy, human and beautiful.'

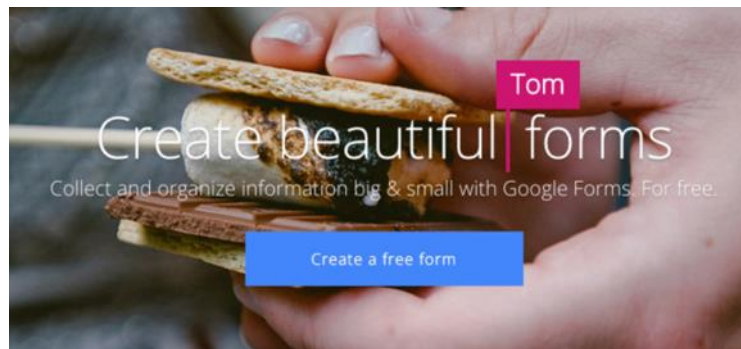
The **free version**, nicknamed the **CORE plan**, has a tonne to offer, including:

- Unlimited questions
- Unlimited answers
- Data export
- Custom design themes or choose from templates
- Basic reporting

These are some pretty great features in the free version, especially the unlimited questions and answers. While logic jumps are not available for CORE users, one can pipe respondent answers into the text of the survey (for example, if a user gives their name, they can be called by their name in the following questions).

### 3.2.4. Google forms

Google Forms is another feather in the cap of the wonder that is Google.



Some awesome features of Google Forms are:

- Unlimited surveys
- Unlimited respondents
- Survey answers and data are automatically collected in Google Sheets
- A lot of theme options
- Add a custom logo
- Add images or videos
- Skip logic and page branching
- Embed a survey into emails or website
- Add collaborators
- 100% free!

Google Forms is the only free online survey tool that provides free skip logic other than SoGoSurvey. This will probably be the first pick for most.

### 3.2.5. Client heartbeat

Client Heartbeat, however, is the basic version that only allows for 50 contacts. One can get alerts to warn them of unhappy customers, see how customer satisfaction compares against their industry’s benchmark, as well as a testimonial widget that can display endorsements on their website.

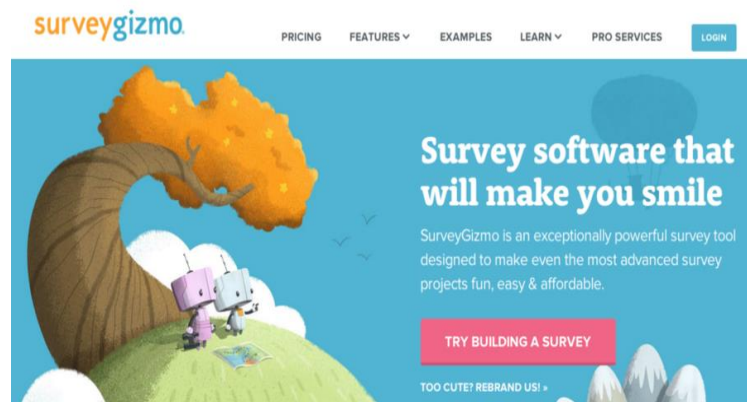
### 3.2.6. Zoho survey

Zoho Survey is another decent free survey creator offering. The **free version** gives:

- Unlimited surveys
- 15 survey questions
- 150 responses

### 3.2.7. Survey gizmo

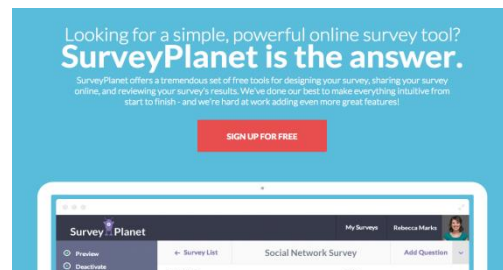
Survey Gizmo creates some snazzy looking surveys, and they are a great choice, even with the free version, as long as there is no plan on getting a ton of respondents.



Survey Gizmo has a limited free version hidden towards the bottom of their pricing page. The **free version** offers:

- Unlimited surveys and questions
- 50 respondents
- Several basic question types
- Free templates
- Basic reporting
- Option to export to CSV

### 3.2.8. Survey planet



The **free version** of Survey Planet is pretty robust, offering:

- Unlimited surveys
- Unlimited questions
- Unlimited respondents
- Survey theme options
- Survey embedding

### **3.3. Advantages and disadvantages of online surveys**

#### Advantages of online surveys

- A faster medium to reach the target audience: In comparison to other survey techniques, such as pen-and-paper surveys, online surveys are exceedingly fast in acquiring feedback from respondents.
- Real-time analysis: After collecting information, the analysis is an important step for researchers to take prompt actions. With online survey software available, researchers can analyse collected data in real-time from a central dashboard.
- Cost-efficient: Due to the minimum required resources, online surveys are much cheaper than other survey methods, such as telephonic or pen-and-paper surveys.
- Minimum margin of error: Unlike the traditional survey methods, respondents directly answer the surveys, without the involvement of a mediator. The margin of error in case of online surveys is, hence, very limited.
- Convenient to understand for respondents: Online surveys are usually very easy to answer as they either come to the email inbox or social media, and it can be answered with a click of a button.
- Saves researchers' time: Online surveys are quick to configure and send and due to the ease, they tend to save researchers' time.
- Respondents are more truthful: When an online survey is conducted within a target audience, researchers allow respondents to answer anonymously. Due to the anonymity involved in online surveys, respondents usually depict a more honest and truthful behaviour in providing feedback.

#### **3.3.1. Disadvantages of online surveys**

- Respondent Co-operation Issues: Online users are usually bombarded with surveys, offers and many other internet antics. There are chances that an important online survey can be overlooked or left unanswered.
- Questionable data reliability: Online surveys are conducted in the absence of a mediator or interviewer. Due to this absence, the feedback received, in many cases, may be considered questionable.
- Limited access to certain sections of a population: There are sections of a target population that may not have access to the World Wide Web. In many cases, feedback from such individuals may prove to be effective for research. For example, if an NGO(Non-Government Organization ) is conducting research to learn about the less fortunate people of Ghana, it is highly unlikely that they have access to online surveys, which makes it difficult for researchers to collect data. But Question Pro offline mobile application allows an offline collection of information without WiFi and cell phone connectivity.

## **4. The software components of the application**

The software components of Q and S application are explained in the following sections.



#### **4.1. NetBeans IDE 8.2**

NetBeans is an integrated development environment (IDE) for Java. NetBeans allows applications to be developed from a set of modular software components called *modules*. NetBeans runs on Windows, macOS, Linux and Solaris. In addition to Java development, it has extensions for other languages, like PHP, C, C++, HTML5 and JavaScript. Applications based on NetBeans, including the NetBeans IDE, can be extended by third-party developers.

NetBeans began in 1996 as Xelfi (word play on *Delphi*), a Java IDE student project under the guidance of the Faculty of Mathematics and Physics at Charles University in Prague. In 1997, Roman Stanek formed a company around the project and produced commercial versions of the NetBeans IDE until it was bought by Sun Microsystems in 1999. However, Sun open-sourced the NetBeans IDE in June of the following year. Since then, the NetBeans community has continued to grow. In 2010, Sun (and thus NetBeans) was acquired by Oracle Corporation. Under Oracle, NetBeans competed with JDeveloper, a freeware IDE that has historically been a product of the company. In September 2016, Oracle submitted a proposal to donate the NetBeans project to the Apache Software Foundation, stating that it was 'opening up the NetBeans governance model to give NetBeans constituents a greater voice in the project's direction and future success through the upcoming release of Java 9 and NetBeans 9 and beyond'. The move was endorsed by Java creator James Gosling. The project entered the Apache Incubator in October 2016.

##### **4.1.1. NetBeans IDE releases**

NetBeans IDE 6.0 introduced support for developing IDE modules and rich client applications based on the NetBeans platform, a Java Swing GUIbuilder (formerly known as 'Project Matisse'), improved CVS support, Web Logic 9 and JBoss 4 support and many editor enhancements. NetBeans 6 is available in official repositories of major Linux distributions.

NetBeans IDE 6.5 was released in November 2008 and extended the existing Java EE features (including Java Persistence support, EJB 3 and JAX-WS). Additionally, the NetBeans Enterprise Pack supports the development of Java EE 5 enterprise applications, including SOA visual design tools, XML schema tools, web services orchestration (for BPEL) and UML modelling. The NetBeans IDE bundle for C/C++ supports C/C++ and FORTRAN development.

NetBeans IDE 6.8 is the first IDE to provide complete support for Java EE 6 and the GlassFish Enterprise Server v3. Developers hosting their open-source projects on kenai.com additionally benefit from instant messaging and issue tracking integration and navigation right in the IDE, support for web application development with PHP 5.3 and the Symfony framework, and improved code completion, layouts, hints and navigation in JavaFX projects.

NetBeans IDE 6.9 was released in June 2010 and added support for OSGi, Spring Framework 3.0, Java EE dependency injection (JSR-299), Zend Framework for PHP and easier code navigation (such as 'Is Overridden/Implemented' annotations), formatting, hints and refactoring across several languages.

NetBeans IDE 7.0 was released in April 2011. On 1 August 2011, the NetBeans team released NetBeans IDE 7.0.1, which fully supported the official release of the Java SE 7 platform.

NetBeans IDE 7.3 was released in February 2013, which added support for HTML5 and web technologies.

NetBeans IDE 7.4 was released on 15 October 2013.

NetBeans IDE 8.0 was released on 18 March 2014.

NetBeans IDE 8.1 was released on 4 November 2015.

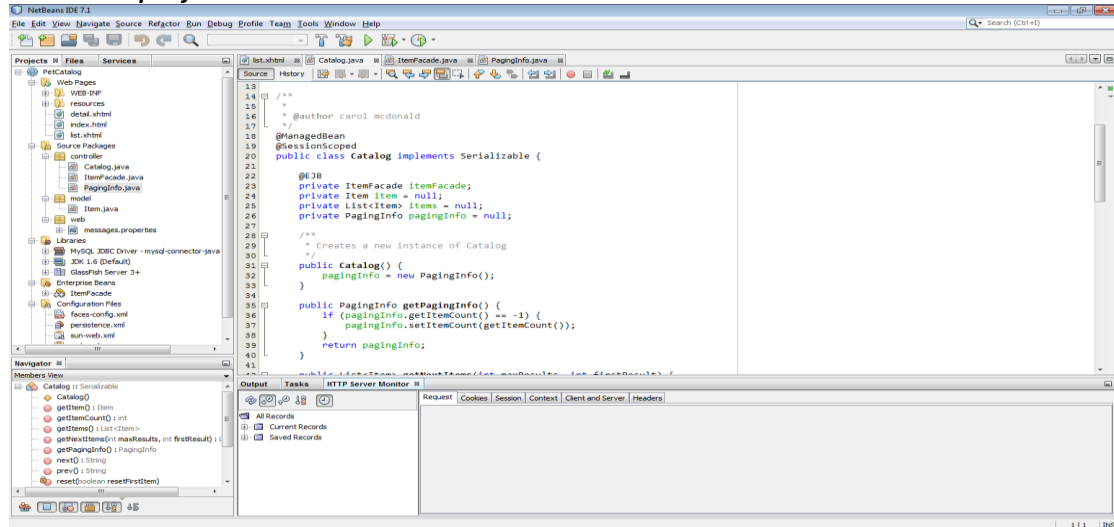
NetBeans IDE 8.2 was released on 3 October 2016.

NetBeans 9.0, which supports Java 9 and 10, was released on 29 July 2018, by the Apache Incubator project.

NetBeans 10.0 was released on 27 December 2018. It supports Java 11 and has an improved support for PHP (7.0–7.3).

NetBeans 11.0 was released on 4 April 2019.

#### 4.1.2. NetBeans platform



The NetBeans Platform is a framework for simplifying the development of Java Swing desktop applications. The NetBeans IDE bundle for Java SE contains what is needed to start developing NetBeans plugins and NetBeans Platform-based applications; no additional SDK is required.

Applications can install modules dynamically. Any application can include the Update Centre module to allow users of the application to download digitally signed upgrades and new features directly into the running application. Re-installing an upgrade or a new release does not force users to download the entire application again.

The platform offers reusable services common to desktop applications, allowing developers to focus on the logic specific to their application. The following are some of the features of the platform:

- User interface management (e.g. menus and toolbars)
- User settings management
- Storage management (carries out efficient storage)
- Window management
- Wizard framework (supports step-by-step dialogues)
- NetBeans Visual Library
- Integrated development tools

#### 4.1.3. NetBeans IDE

NetBeans IDE is an open-source IDE. NetBeans IDE supports the development of all types of Java application (Java SE (including Java FX), Java ME, web, EJB and mobile applications) out of the box. Among other features are an Ant-based project system, Maven support, refactoring's, version control (supporting CVS, Subversion, Git, Mercurial and Clear case).

Modularity: All the functions of the IDE are provided by modules. Each module provides a well-defined function, such as support for the Java language, editing or support for the CVS versioning system, and SVN. NetBeans contains all the modules needed for Java development in a single

download, allowing the user to start working immediately. Modules also allow NetBeans to be extended. New features, such as support for other programming languages, can be added by installing additional modules. For instance, Sun Studio, Sun Java Studio Enterprise and Sun Java Studio Creator from Sun Microsystems are all based on the NetBeans IDE.

License: From July 2006 through 2007, NetBeans IDE was licensed under Sun’s Common Development and Distribution License (CDDL), a license based on the Mozilla Public License. In October 2007, Sun announced that NetBeans would henceforth be offered under a dual license of the CDDL and the GPL version 2 licenses, with the GPL linking exception for the GNU Class path. The NetBeans community blog announced that Oracle is proposing to entrust the development of the NetBeans platform and IDE to the Apache Foundation to ‘open up the government model,’ reaffirming its commitment to the project. NetBeans is currently submitted as a proposal to Apache, and it will enter incubation if accepted.

#### 4.1.4. Integrated modules

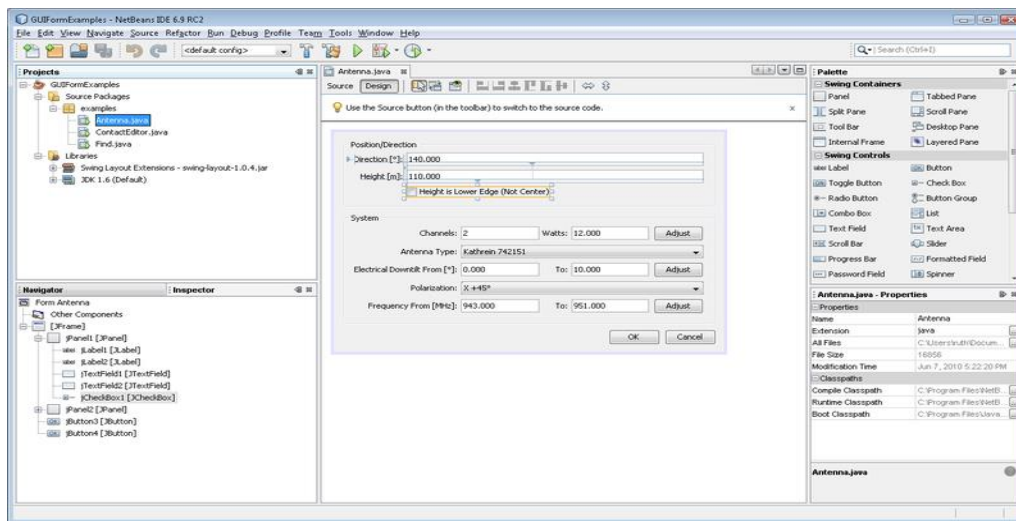
The following modules are part of the NetBeans IDE.

##### 4.1.4.1. NetBeans profiler

- The NetBeans Profiler is a tool for monitoring Java applications. It helps developers find memory leaks and optimise speed. Formerly downloaded separately, it is integrated into the core IDE since version 6.0. The Profiler is based on a Sun Laboratories research project that was named JFluid. That research uncovered specific techniques that can be used to lower the overhead of profiling a Java application. One of those techniques is dynamic byte code instrumentation, which is particularly useful for profiling large Java applications. Using dynamic byte code instrumentation and additional algorithms, the NetBeans Profiler is able to obtain runtime information on applications that are too large or complex for other profilers. NetBeans also support profiling points that allows profiling precise points of execution and measuring execution time.

##### 4.1.4.2. GUI design tool

Formerly known as *project Matisse*, the GUI design tool enables developers to prototype and design Swing GUIs by dragging and positioning GUI components.



##### 4.1.4.3. NetBeans IDE download bundles

Users can choose to download NetBeans IDE bundles that are tailored to specific development needs. Users can also download and install all other features at a later date directly through the NetBeans IDE.

#### 4.1.4.4. NetBeans IDE bundle for PHP

NetBeans supports PHP since version 6.5. The bundle for PHP includes:

- syntax highlighting, code completion, occurrence highlighting, error highlighting and CVS version control
- semantic analysis with highlighting of parameters and unused local variables
- PHP code debugging with x debug
- PHP Unit testing with PHP Unit and Selenium
- Code coverage
- Symfony framework support (since version 6.8)
- Zend Framework support (since version 6.9)
- Yii Framework support (since version 7.3)
- PHP 5.3 namespace and closure support (since version 6.8)
- Code Folding for Control Structures (since version 7.2 dev)

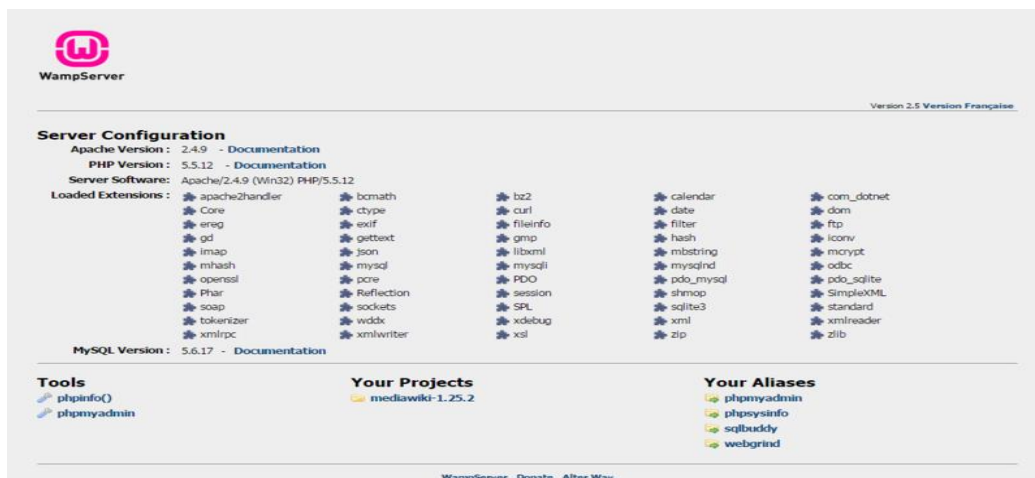
#### 4.1.4.5. NetBeans IDE complete bundle

Oracle released a version of NetBeans that included all of the features of the above-mentioned bundles. This bundle includes:

- NetBeans Base IDE
- Java SE, JavaFX
- Web and Java EE
- Java ME
- C/C++
- PHP (Version 5.5 and later)
- Apache Groovy
- GlassFish
- Apache Tomcat

## 4.2. WAMP Server

WAMP Server refers to a software stack for the Microsoft Windows operating system, which was created by Romain Bourdon, consisting of the Apache web server, Open SSL for SSL support, MySQL database and PHP programming language. It is often used for web development and internal testing, but it can also be used to serve live websites.



WAMP is an acronym that stands for Windows, Apache, MySQL and PHP. For reference, MAMP, the Mac version of this, stands for Mac, Apache, MySQL and PHP. So, the acronym here pretty much

describes exactly what is going on. Windows is, well Windows, an operating system where one can do work. Apache is a web server application that runs on a large portion of web servers around the world.

MySQL is the database system used by Word Press. Finally, PHP is the programming language used by Word Press. Combined together, this is a web server with a correct database system and programming language to run Word Press, all running on the Windows computer. With WAMP installed, it is in effect, turning the Windows computer into a web server much like the web servers that host Word Press on the live web. Under WAMP, the Word Press site will run exactly like it would run on a live server on the web, except locally on one's computer.

### **4.3. PhPMyAdmin**

PhpMyAdmin is a free software tool written in PHP, which is intended to handle the administration of MySQL over the Web. PhpMyAdmin supports a wide range of operations on MySQL and Maria DB. Frequently used operations (managing databases, tables, columns, relations, indexes, users, permissions etc.) can be performed via the user interface, while one still has the ability to directly execute any SQL statement.

PhpMyAdmin comes with a wide range of documentation and users are welcome to update wiki pages to share ideas and how-to for various operations. The phpMyAdmin team will try to help if there is any problem; one can use a variety of support channels to get help.

PhpMyAdmin is also very deeply documented in a book written by one of the developers – Mastering phpMyAdmin for Effective MySQL Management – which is available in English and Spanish.

To provide this usage to a wide range of people, phpMyAdmin is being translated into 72 languages and supports both LTR and RTL languages.

PhpMyAdmin is a mature project with a stable and flexible code base; one can find out more about the project and its history and the awards it earned. When the project turned 15, a celebration page was published.

The phpMyAdmin project is a member of Software Freedom Conservancy (SFC). SFC is a not-for-profit organisation that helps promote, improve, develop and defend Free, Liber and Open Source Software projects.

#### **4.3.1. Features**

##### **4.3.1.1. Intuitive web interface**

Support for most My SQL features:

- Browse and drop databases, tables, views, fields and indexes
- Create, copy, drop, rename and alter databases, tables, fields and indexes
- Maintenance server, databases and tables, with proposals on server configuration
- Execute, edit and bookmark any SQL statement, even batch queries
- Manage My SQL user accounts and privileges
- Manage stored procedures and triggers
- Import data from CSV and SQL
- Export data to various formats: CSV, SQL, XML, PDF, ISO/IEC 26300 - Open Document Text and Spreadsheet, Word, LATEX and others
- Administer multiple servers
- Create graphics of database layout in various formats
- Create complex queries using query by example (QBE)

- Search globally in a database or a subset of it
- Transform stored data into any format using a set of predefined functions, like displaying BLOB data as image or download link.

## 5. Description of the questionnaires and surveys application

### 5.1. Description of the application

Q and S is a website which is designed to be used by companies to make their work easier and more secure. If the company wants to ask its employees to evaluate something, they can easily make it through the Q and S website. This website has a new login process, specific characteristics and many deeds.

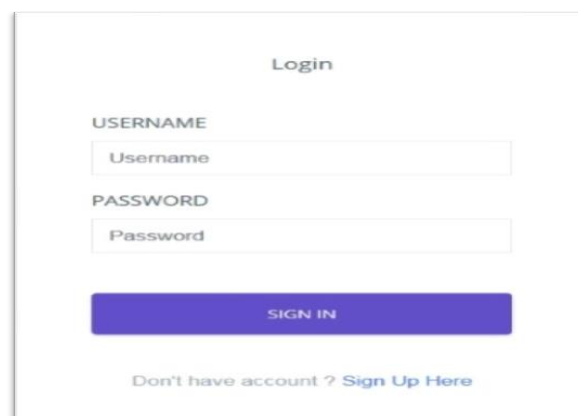
Let us begin with the login process.

The login process of this website differs from other websites and forms. When one opens the Q and S website, the screen presents two panels of login, one is the Admin Panel and the other is the User Panel.

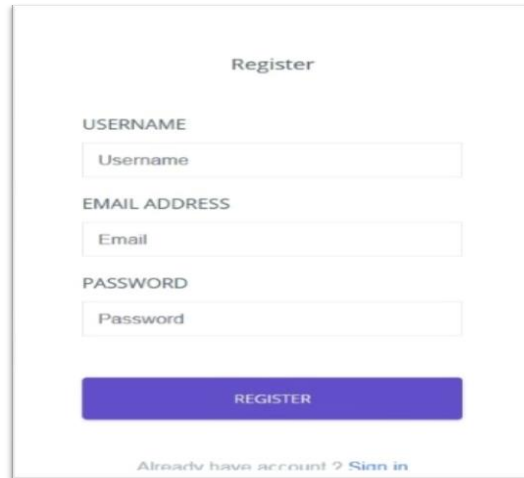


Starting with the admin panel:

This panel is specifically to be used only by the head of the company or by the one who is responsible for conducting the survey and questionnaire. When the admin clicks on the Admin Panel, the website presents on the screen a login page and a choice to sign up if it is the first time the admin is entering this website and wants to create an account.



So, when the admin will clicks on sign up, he then has to fill in the basic information (user name, email address and password) and register on the website.



The image shows a web form titled "Register". It contains three input fields: "USERNAME" with a placeholder "Username", "EMAIL ADDRESS" with a placeholder "Email", and "PASSWORD" with a placeholder "Password". Below these fields is a blue button labeled "REGISTER". At the bottom of the form, there is a link that says "Already have account? Sign in".

After registering, the admin will have a code, which is the username (i.e. username: Mazen13and the code is: Mazen13).

What is the role of the code?

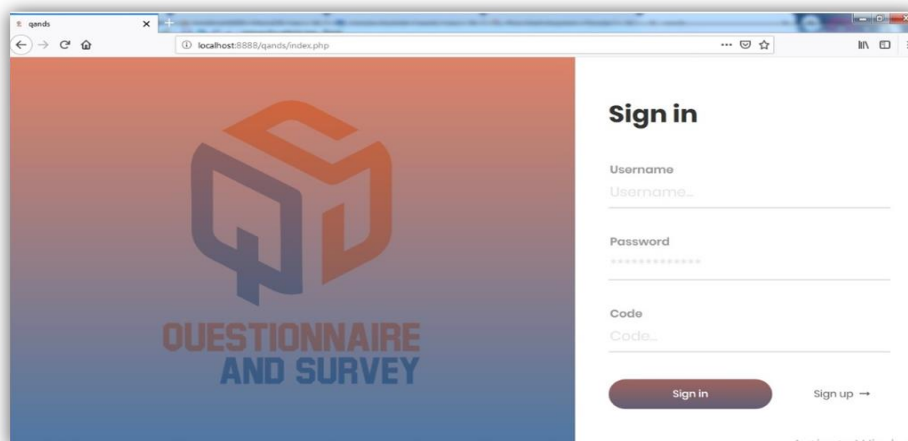
The code here plays an essential role in the login process; it is the link between the admin and the user. When the admin registers on the website, he will get a code and this code is specific for him. In order for the user to register on the admin page, he must have the code or he cannot sign in to fill in the survey form.

Admin registers → Gets code → Gives the code the user → User register → User can fill in the survey form

Let us now talk about the User Panel.

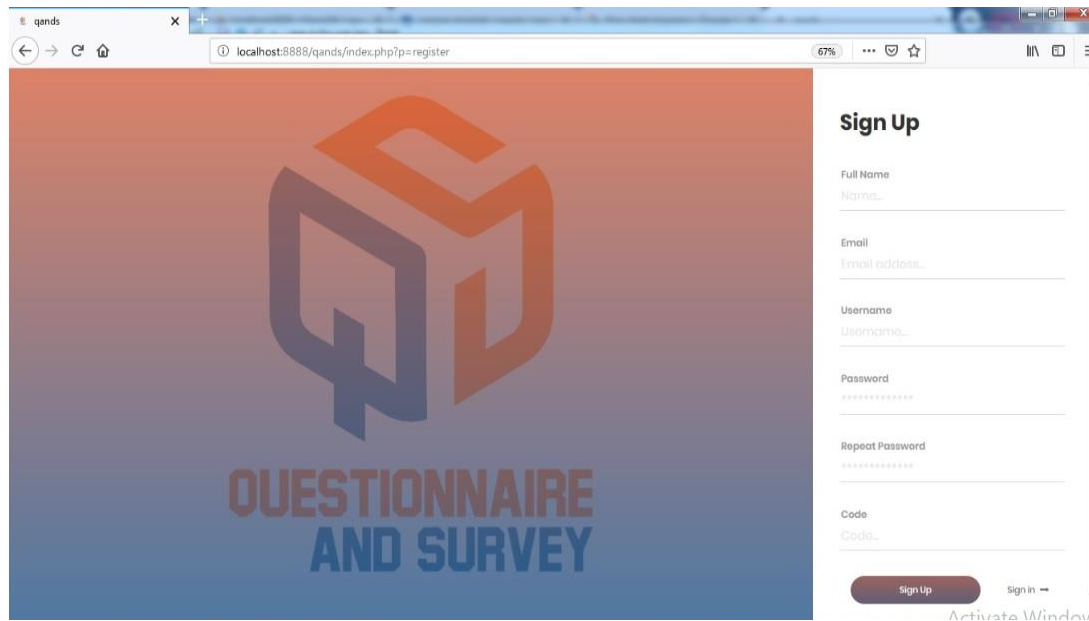
First, who is the user? The user is the one who is the admin or the one who fills in the survey created on the website, and the admin has to explain to him that he must enter on the user panel only.

When the user clicks on the user panel, a sign in page will appear.



The image shows a web browser window displaying a "Sign in" page. The page has a header with a logo that says "QUESTIONNAIRE AND SURVEY". The main content area has three input fields: "Username" with a placeholder "Username...", "Password" with a placeholder "\*\*\*\*\*", and "Code" with a placeholder "Code...". Below these fields are two buttons: "Sign in" and "Sign up →".

If the user does not have an account on the website, then he has to sign up and create an account.



The user has to fill in his full name, email address, username, password and code.

As mentioned earlier, the code is the linkage between the admin and the user, and for the user to enter the survey of his company, he must obtain a code.

Each admin will have a specific code, when he sets up a survey on the website and wants the employees fill it in, he must give them the correct code to his Admin panel.

If the admin does not give them the code, then they will not have an access to the website; so, the code is the pass key for the user to enter the Q and S website.

The user can change his username and password whenever he wants.

## **5.2. Q and S admin page**

After the admin signs in into the Q and S website, they will have their own page and can control it the way they want. The Admin page comprises a lot of taps and icons.

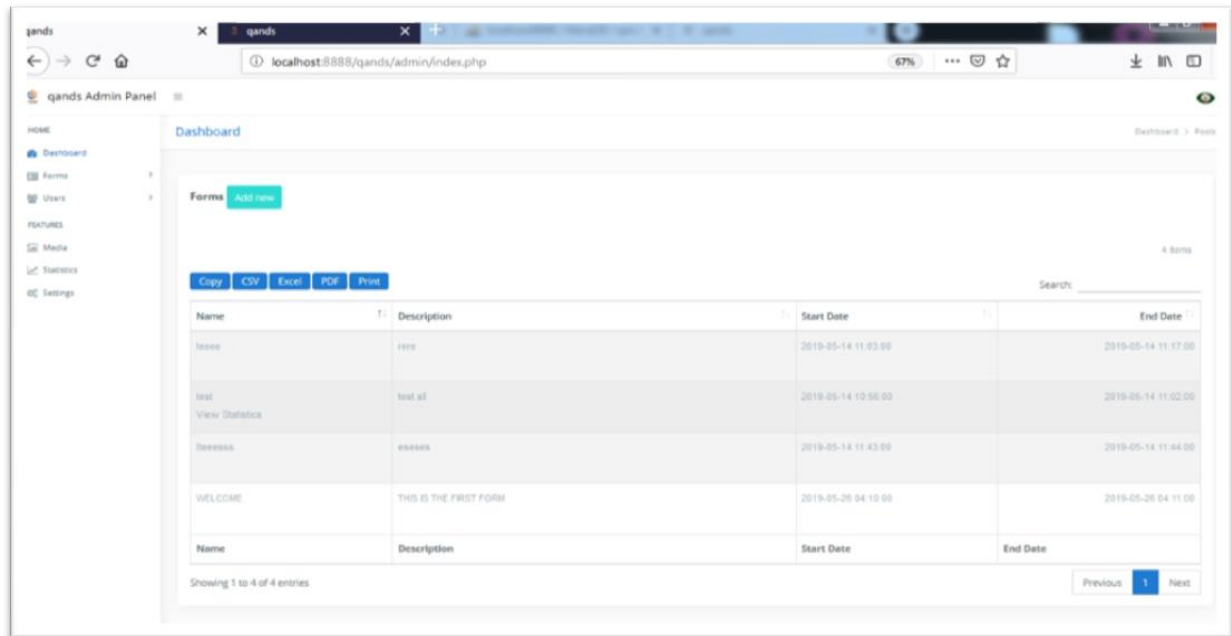
### **5.2.1. Taps of the home page**

On the right side of the home page, there is an icon where the user can view his profile, where he can change his user name, email, password, profile image and a tap to logout.

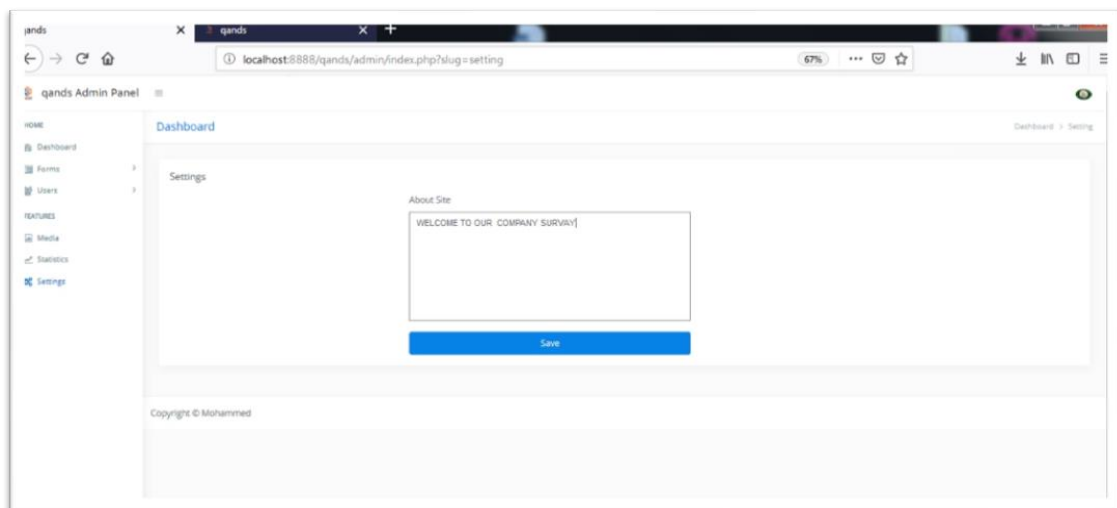
On the left side of the home page, there are many taps: dashboard, users, features and settings.

1. On the dashboard, one can view all the surveys that the admin did; a short view of the surveys name, description, start date, end date can be seen, with a choice to copy the old surveys or print them or download them as PDF or excel sheet.





2. The forms tap view has two choices: all forms and add new form. It is where the admin can enter to create his own survey.
3. The users tap shows the admin all the users that have logged in with his code and have participated in filling in the survey form.
4. On the feature tap, there are two taps: the media tap, which presents all media-like images that are used by the admin, and a statistics tap.
5. The statistic tap is where the admin can see the results of the competed surveys.
6. On the settings tap, there is a space to write a quotation or a paragraph named as About us.



### 5.2.2. Creating a survey

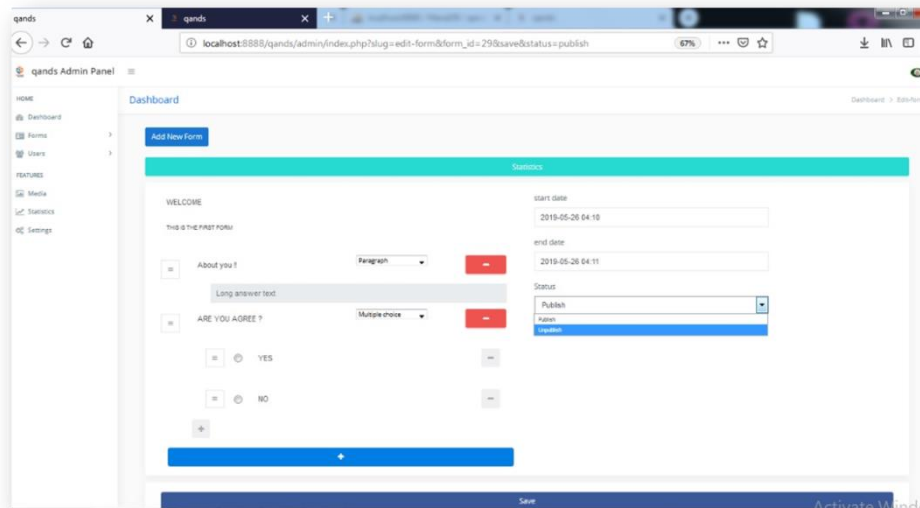
The admin can create a new form by clicking on forms→Add new form, or from the Dashboard→Add New.

The admin can add a title for the survey, and there is a choice to add a description too. The title can be edited or deleted.

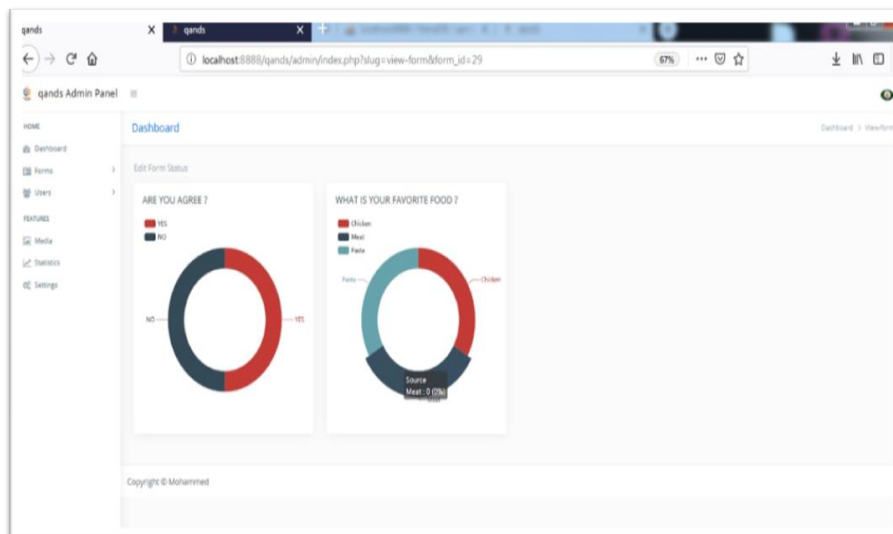
Then, the admin has to enter the questions. There are a lot of choices that make the Admin feel free to use the type of questions he wants.

The questions of the survey can be a short answer, paragraph, multiple choice, checkboxes, dropdown, file upload, multiple choice grid or checkboxes grid. However, there is a feature to add a lot of options for some kind of questions, and also there is an icon to make the question required, to delete it and to add a description for the question.

Also, the admin must add a validation date and time for answering the survey. He should put the starting and ending dates and time for filling out the survey. When the user finishes the survey and sets up a validation time and date, he must save it; by this time, the survey will appear to the user to fill it, but with a specific time and date because after the end date of the survey, the user will not be able to fill in the survey any more.



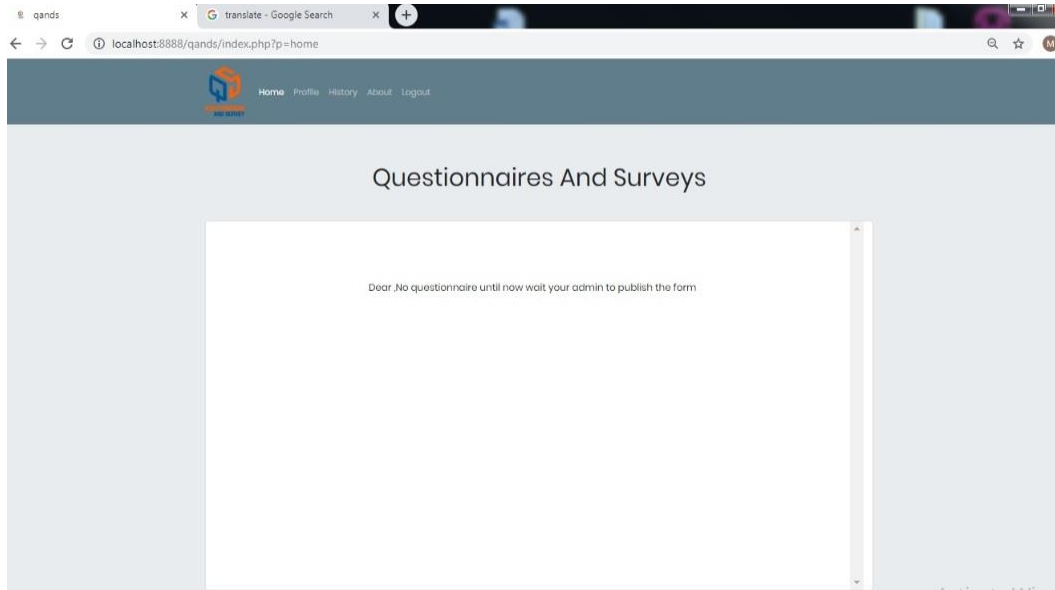
While the users are filling the surveys, the admin can see the statistics based on the answers to the questions of the survey from the statistics tap.



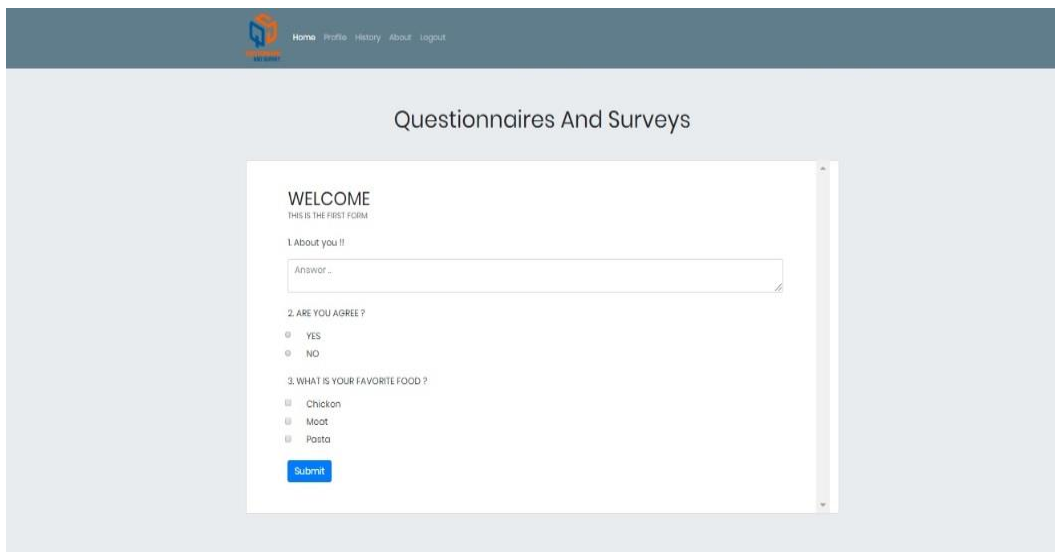
### 5.3. Q and S user page

After the user login of the code of his admin, he will have a page to fill the survey. The page consist from Home Page, Profile, History, about, and Logout.

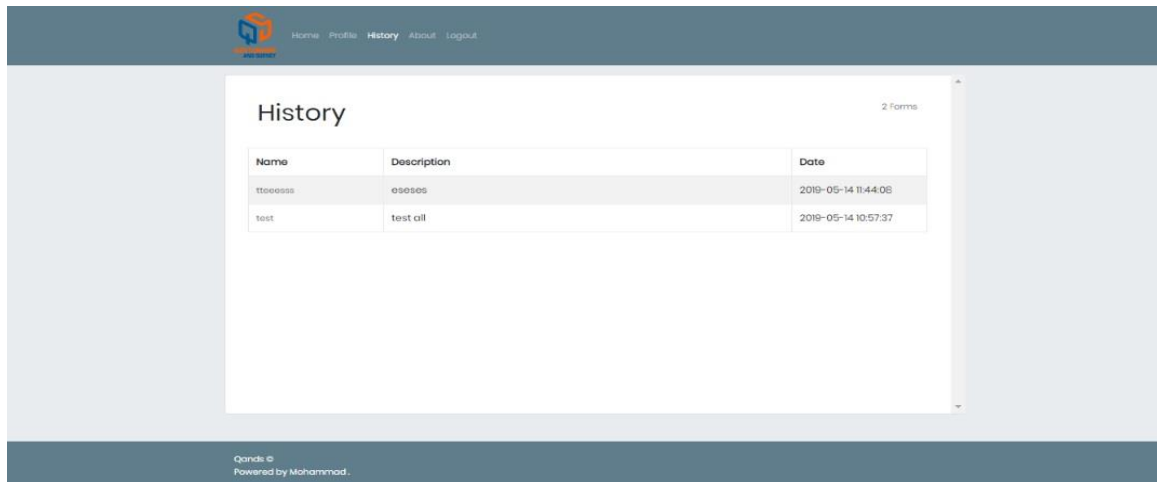
- On the home page, the user can see the survey that he want to fill in, but if the admin has not published and saved his survey, it will not appear on the users' page, but he will receive a message with regard to the same.



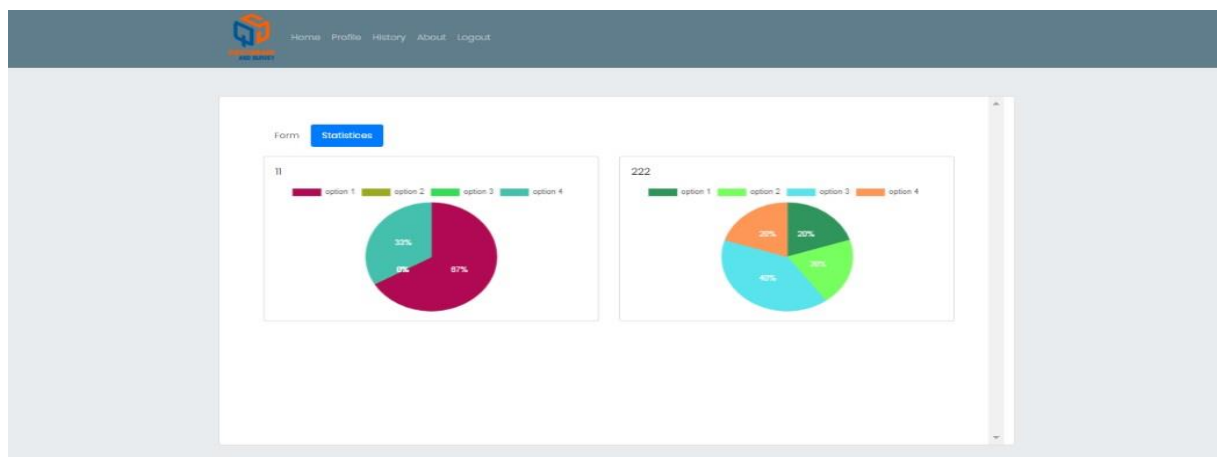
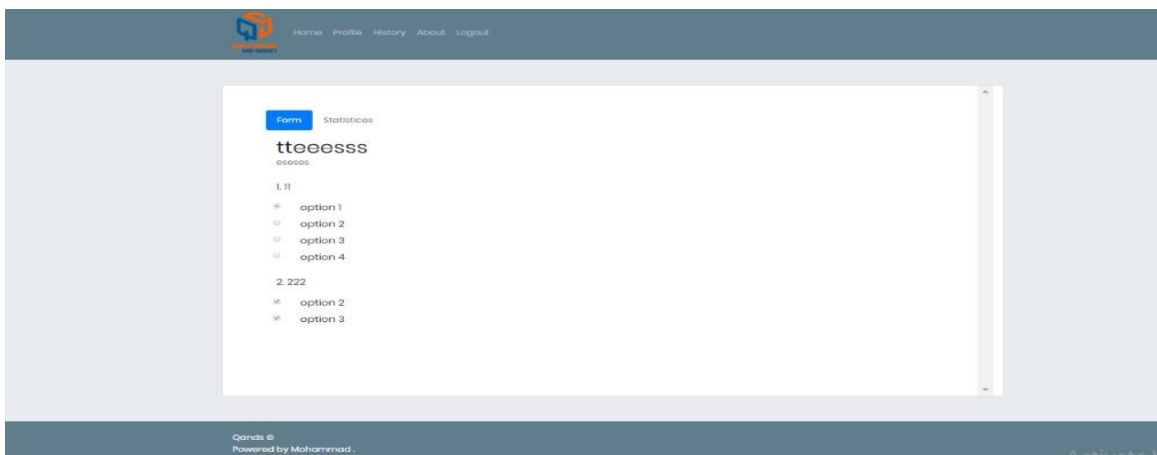
When the admin publishes the survey, it will appear to the user.



- The profile is where the admin can change his password, email and username.
- On the about tap, the user can read about what the admin has written about the company, questionnaires etc.
- The history tap shows the user all the old surveys that he has filled and their statistics.



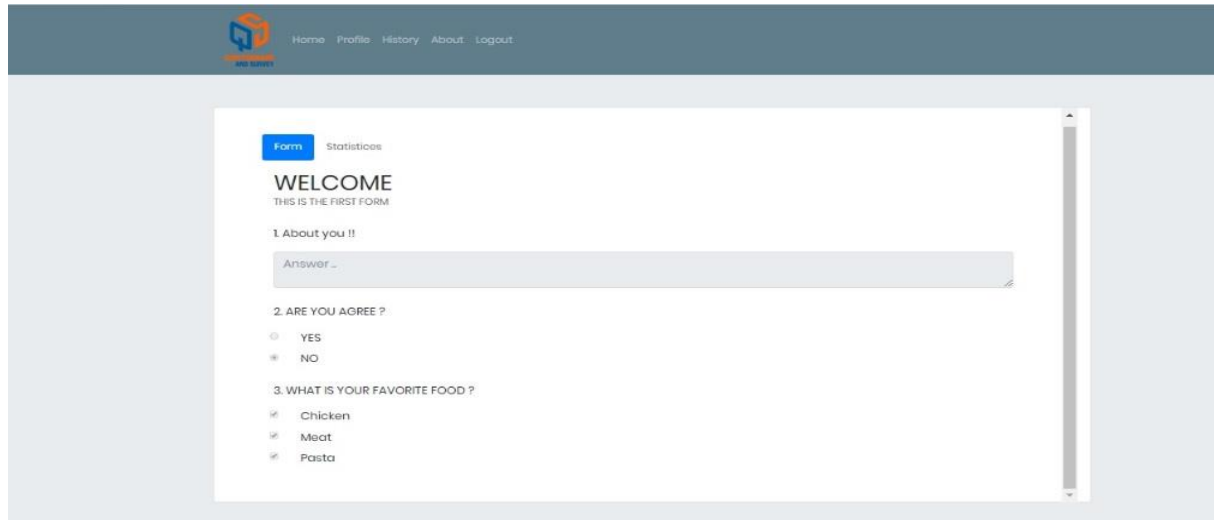
The user can open the survey and see his answers, as well as see the results of the old surveys.



### 5.3.1. Submitting a survey

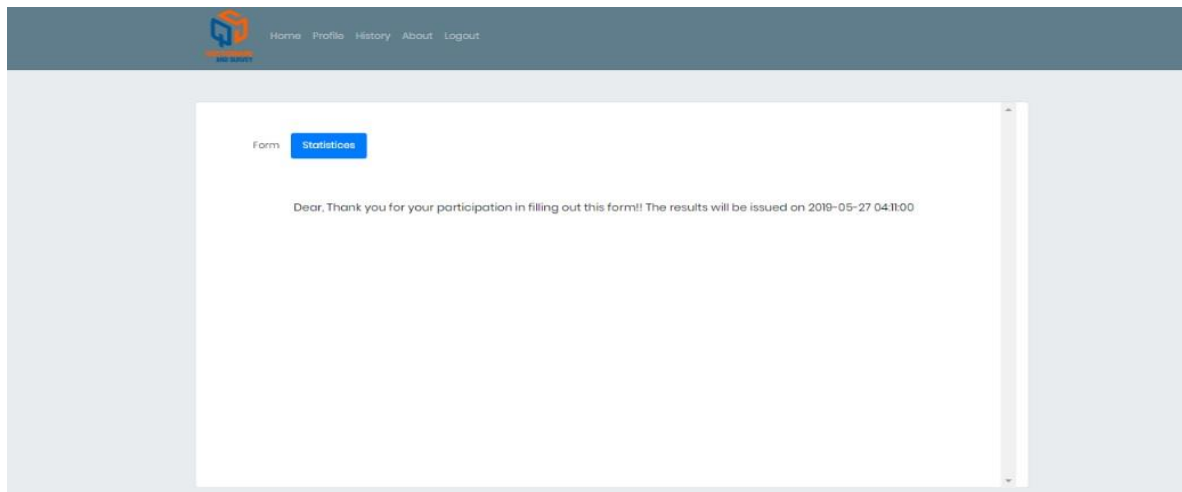
After the user fills in the survey, he must press on the submit button and after submitting the survey, he will be able to see his answers, but he cannot edit or change them. A new page will appear to the user named as statistics. This page is responsible for showing the user the results of the surveys

he participates in, but when the date of the survey is not valid the page will show nothing; it also contains a message that thanks the user for their participation and tells them when the results will be issued.



The screenshot shows a web application interface for an online survey. At the top, there is a navigation bar with a logo and links for Home, Profile, History, About, and Logout. Below the navigation bar, there are two tabs: 'Form' (selected) and 'Statistics'. The main content area displays a 'WELCOME' message and the text 'THIS IS THE FIRST FORM'. The survey consists of three questions:

1. About you !!  
Answer\_
2. ARE YOU AGREE ?  
 YES  
 NO
3. WHAT IS YOUR FAVORITE FOOD ?  
 Chicken  
 Meat  
 Pasta



The screenshot shows the same web application interface, but the survey form is completed. The 'Form' tab is still selected, and the 'Statistics' tab is highlighted in blue. The main content area displays a thank you message: 'Dear, Thank you for your participation in filling out this form!! The results will be issued on 2019-05-27 04:11:00'.

## 6. Conclusion

For the past few years, the Internet has been used by many companies in conducting all sorts of studies all over the world. Whether it is market or scientific research, the online survey has been a faster way of collecting data from respondents when compared to other survey methods, such as paper-and-pencil method and personal interviews.

Online survey or internet survey is one of the most popular data collection sources, where a set of survey questions is sent out to a target sample and the members of this sample can respond to the questions over the World Wide Web. Respondents receive online surveys via various mediums, such as email, embedded over website, social media etc. A questionnaire is a series of questions used for gathering information that is used to benefit a single individual. While more than one individual might complete the questionnaire, the responses are not aggregated for analysis. A survey, on the other hand, is the process of gathering information for statistical analysis to benefit a group of individuals. The responses are aggregated to draw a conclusion. In other words, a survey is the process of collecting and analysing the data, where the questionnaire is the set of questions used to gather the

information. Organisations implement online surveys to use the internet in order to gain insights and feedback about upcoming products or services, change in marketing strategies, enhancement in current features etc. With the progress made by the internet, more and more organisations depend on the data received and analysed from online surveys to make integral changes in their functioning. For efficient data collection, organisations must choose an advanced and efficient online survey platform. The primary reason for the growth seen in the implementation of online survey is that they are extremely low cost and conducting an online survey is convenient due to the sheer magnitude of reach. Over the past decade, researchers have started preferring conducting surveys using an online survey tool as they can send out surveys from their desktops or laptops and their target audience can respond to these surveys whenever possible.

Internet access is increasing across the globe and has resulted in an increase in the use of online surveys. Online surveys is one of the most widely utilised survey methods, which is a systematic gathering of data from the target audience characterised by the invitation of the respondents and the completion of the questionnaire over the World Wide Web. There are many studies that talk about the online survey and questionnaire, its benefits, disadvantages, importance and best surveys. Also, there are a lot of online surveys forms available nowadays. Experts have argued that it is a cost-effective and time saving factor for the researcher. Although multiple data collection strategies help in achieving a better response, combining email, postal and web-based survey, may, however, prove impractical or financially unfeasible to use. All these studies show us how the online surveys is widely spread all over the world, and all scientist, companies and researchers use it in their work. This spread encouraged us to create this specific project. The Q and S website makes the work of companies' easier than before. It is specifically to be used by companies only, as companies have a lot of work and they need a form to be specific for them to use. The Q and S website is developed and has many characteristics as we have mentioned earlier.

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