**3. SYSTEM ANALYSIS**

System Analysis is a detailed study of the various functions performed by the system and the relationships within and outside of the system. It is the way of studying a system with an eye on solving its problem using computers. It is the most essential part of the project development.

In this phase, the problem is identified and an alternate system solution for solving it is recognized. System Analysis not only includes the process of synthesis, which is a process of putting parts together to form a new product, but also the requirement identification and specification.

During analysis, data are collected on the available files, decision points, and transactions handled by the present system. Training experience and common sense are required for the collection of the information needed to do the analysis Data flow diagrams, interviews, on-site observations and questionnaires are examples.

The System Analysis includes two stages: Preliminary Analysis and Detailed Analysis. Preliminary Analysis includes a quick look at what is needed. Detailed Analysis includes an in-depth look at the system and analyses the costs and benefits. The costs and benefits of each alternative guide the selection of the best system for the job. Cost/Benefit Analysis identifies the costs and benefits of a given system and categorizes them for analysis.

Once analysis is completed, the analyst has a firm understanding of what is to be done. The next step is to decide how the problem might be solved. Thus, in system design, we move from the logical to the physical aspects of the life cycle. To analyses a system one has to study the system work in detail, before designing to the appropriate computer based system that will meet all requirements of the system.

There are a number of different approaches to system analysis. When a computer-based information system is developed, systems analysis (according to the Waterfall model) would constitute the following steps:

* The development of a feasibility study, involving determining whether a project is economically, socially, technologically and organizationally feasible.
* Conducting fact-finding measures, designed to ascertain the requirements of the system's end-users. These typically span interviews, questionnaires, or visual observations of work on the existing system.
* Gauging how the end-users would operate the system (in terms of general experience in using computer hardware or software), what the system would be used for and so on.

Techniques such as interviews, questionnaires etc. can be used for the detailed study of these processes. The data collected by these sources must be scrutinized to arrive at a conclusion. The conclusion is an understanding of how the system functions. This system is called the ***Existing System***. The Existing system is then subjected to close observation and the problem areas are identified. The designer now functions as a problem solver and tries to sort out the difficulties that the enterprise faces. The solutions are given as a proposal which is the ***Proposed System.*** The proposal is then weighed with the existing system analytically and the best one is selected. The proposal is then presented to the user for an endorsement by the user. The proposal is reviewed on user request and suitable changes are made. This is a loop that ends as soon as the user is satisfied with the proposal.

# 3.1 EXISTING SYSTEM

Currently it is hard for a newcomer to find a tournaments in multiplayer games in gamming community. The slot booking for a tournaments through WhatsApp, discord and google forms. Currently no public platform for gamming community

# LMITATIONS OF EXISTING SYSTEM

* Skilled players will not get the opportunity
* Hard to find tournaments to a newcomer
* Registration through WhatsApp make more effort to the organizer

# 3.2 PROPOSED SYSTEM

The aim of the proposed system is to provide the opportunity to a user to find more tournaments and events organized by others community .This system makes it easier for both new comers and the ones who already in gamming community to find the right tournaments or events they want. The system will also act as a community for all those who interested in gamming.

# ADVANTAGES OF PROPOSED SYSTEM

* Easy access: The user can access the details anytime anywhere in the world.
* Multiple user interface: At a time different users can access the proposed system.
* Create opportunities for new comers.
* Makes it easier to find new better tournaments
* Gaming community will become more accessible to commoners.
* New and different tournaments will come.
* User friendly and interactive

**4. SOFTWARE REQUIREMENT SPECIFICATION (SRS)**

A **Software Requirement Specification** (SRS) is a detailed description of a software system to be developed with its functional and nonfunctional requirements. The SRS developed based the agreement between customer and contractors. It may include the use cases of how user is going to interact with software system. The software requirement specification consists of all necessary requirements required for project development. To develop the software system we should have clear understanding of software system. To achieve this we need continuous communication with customers to gather all requirements.

A good SRS defines how software system will interact with all internal modules, hardware, communication with other programs, and human user interactions with wide range of real life scenarios. Using the software requirement specification (SRS) document on QA lead, managers creates test plan. It is very important that testers must be cleared with every details specified in this document in order to avoid faults in test cases and its expected results.

**WHAT IS THE PROBLEM TO BE SOLVED?**

* Speed up the users registration process
* Provision to post complaints
* Minimize the human effort
* Speed up the processing of data

**CUSTOMER REQUIREMENTS**

* Data entry must be made easy
* Searching for the records must be easy
* Secure the data
* Can’t enter erroneous data
* To give complaints
* To view others posts
* User registration must be made fast
* The system should display the basic information of user

**WHAT THE DEVELOPERS NEED TO KNOW**

* They should aware about the language
* They should know about the customer requirements
* They should know about new technologies
* They should know about existing system

**4.1 FUNCTIONAL REQUIREMENTS**

**Administrative functions**:

Admin have the right to create, view and modify the data.

**Authentication**:

Process of verifying who a user is.

**Authorization:**

Process of verifying what they have access to**.**

**Report generation:**

Generating the Report of the system.

**Certification:**

Require authorized certification.

**4.2. NON-FUNCTIONAL REQUIREMENTS**

**Security:**

The most important non-functional requirement, the system can be access by a valid user using their own username and password provided by the administrator.

**Availability:**

The system should be available in 24 hours.

**Usability:**

The system should be easy to understand by all the users.

**Maintainability:**

The system should have the capability to be modified.

**4.3 System Requirements**

**Hardware Specifications**

Processor : I5 or higher

System bus : 64bits

Memory : 8GB RAM or Higher

Hard disk : 250GB or Higher

Monitor : 14” LCD Monitor

Keyboard : 104 keys

Pointing Device : Two or Three Button Mouse

**Software Specifications**

Operating System : Windows7 or above

IDE : Net Beans IDE 8.0

Front End : JSP, HTML, Android Studio 3.0

Scripting Language : JavaScript

Back End : MySQL 5.0

Web Server : Glass Fish/Tomcat

Browser : Mozilla Firefox, Google Chrome

**FEATURES OF TECHNOLOGY**

* **JSP**

Java Server Pages (JSP) is a server-side programming technology that enables the creation of dynamic, platform-independent method for building Web-based applications. JSP have access to the entire family of Java APIs, including the JDBC API to access enterprise databases. Java Server Pages (JSP) is a technology for developing web pages that support dynamic content which helps developers insert java code in HTML pages by making use of special JSP tags, most of which start with <% and end with %>.

A Java Server Pages component is a type of Java servlet that is designed to fulfill the role of a user interface for a Java web application. Web developers write JSPs as text files that combine HTML or XHTML code, XML elements, and embedded JSP actions and commands.

Using JSP, you can collect input from users through web page forms, present records from a database or another source, and create web pages dynamically.

JSP tags can be used for a variety of purposes, such as retrieving information from a database or registering user preferences, accessing JavaBeans components, passing control between pages and sharing information between requests, pages etc.

**Why Use JSP?**

Java Server Pages often serve the same purpose as programs implemented using the Common Gateway Interface (CGI). But JSP offer several advantages in comparison with the CGI.

* Performance is significantly better because JSP allows embedding Dynamic Elements in HTML Pages itself instead of having a separate CGI files.
* JSP are always compiled before it's processed by the server unlike CGI/Perl which requires the server to load an interpreter and the target script each time the page is requested.
* Java Server Pages are built on top of the Java Servlets API, so like Servlets; JSP also has access to all the powerful Enterprise Java APIs, including JDBC, JNDI, EJB, JAXP etc.
* JSP pages can be used in combination with servlets that handle the business logic, the model supported by Java servlet template engines.

Finally, JSP is an integral part of Java EE, a complete platform for enterprise class applications. This means that JSP can play a part in the simplest applications to the most complex and demanding.

## Advantages of JSP:

Following is the list of other advantages of using JSP over other technologies:

* **vs. Active Server Pages (ASP):** The advantages of JSP are twofold. First, the dynamic part is written in Java, not Visual Basic or other MS specific language, so it is more powerful and easier to use. Second, it is portable to other operating systems and non-Microsoft Web servers.
* **vs. Pure Servlets:** It is more convenient to write (and to modify!) regular HTML than to have plenty of println statements that generate the HTML.
* **vs. Server-Side Includes (SSI):** SSI is really only intended for simple inclusions, not for "real" programs that use form data, make database connections, and the like.
* **vs. JavaScript:** JavaScript can generate HTML dynamically on the client but can hardly interact with the web server to perform complex tasks like database access and image processing etc.
* **vs. Static HTML:** Regular HTML, of course, cannot contain dynamic information.

## JSP Processing:

The following steps explain how the web server creates the web page using JSP:

* As with a normal page, your browser sends an HTTP request to the web server.
* The web server recognizes that the HTTP request is for a JSP page and forwards it to a JSP engine. This is done by using the URL or JSP page which ends with **.jsp** instead of .html.
* The JSP engine loads the JSP page from disk and converts it into a servlet content. This conversion is very simple in which all template text is converted to println( ) statements and all JSP elements are converted to Java code that implements the corresponding dynamic behavior of the page.
* The JSP engine compiles the servlet into an executable class and forwards the original request to a servlet engine.
* A part of the web server called the servlet engine loads the Servlet class and executes it. During execution, the servlet produces an output in HTML format, which the servlet engine passes to the web server inside an HTTP response.
* The web server forwards the HTTP response to your browser in terms of static HTML content.
* Finally web browser handles the dynamically generated HTML page inside the HTTP response exactly as if it were a static page.

MySQL is the most popular Open Source Relational SQL database management system. MySQL is one of the best RDBMS being used for developing web-based software applications.

* **Android**

Android is an open source and Linux-based **Operating System** for mobile devices such as smartphones and tablet computers. Android was developed by the *Open Handset Alliance*, led by Google, and other companies.

Android offers a unified approach to application development for mobile devices which means developers need only develop for Android, and their applications should be able to run on different devices powered by Android.

The first beta version of the Android Software Development Kit (SDK) was released by Google in 2007 where as the first commercial version, Android 1.0, was released in September 2008.

On June 27, 2012, at the Google I/O conference, Google announced the next Android version, 4.1 **Jelly Bean**. Jelly Bean is an incremental update, with the primary aim of improving the user interface, both in terms of functionality and performance.

The source code for Android is available under free and open source software licenses. Google publishes most of the code under the Apache License version 2.0 and the rest, Linux kernel changes, under the GNU General Public License version 2.

Android applications are usually developed in the Java language using the Android Software Development Kit.

Once developed, Android applications can be packaged easily and sold out either

through a store such as **Google Play**, **SlideME**, **Opera Mobile Store**, **Mobile Store**, **Mobango**, **F-droid** and the **Amazon Appstore**.

Android powers hundreds of millions of mobile devices in more than 190 countries around the world. It's the largest installed base of any mobile platform and growing fast. Every day more than 1 million new Android devices are activated worldwide.

## MySQL Database

MySQL is a fast, easy-to-use RDBMS being used for many small and big businesses. MySQL is developed, marketed, and supported by MySQL AB, which is a Swedish company. MySQL is becoming so popular because of many good reasons:

* MySQL is released under an open-source license. So you have nothing to pay to use it.
* MySQL is a very powerful program in its own right. It handles a large subset of the functionality of the most expensive and powerful database packages.
* MySQL uses a standard form of the well-known SQL data language.
* MySQL works on many operating systems and with many languages including PHP, PERL, C, C++, JAVA, etc.
* MySQL works very quickly and works well even with large data sets.
* MySQL is very friendly to PHP, the most appreciated language for web development.
* MySQL supports large databases, up to 50 million rows or more in a table. The default file size limit for a table is 4GB, but you can increase this (if your operating system can handle it) to a theoretical limit of 8 million terabytes (TB).
* MySQL is customizable. The open-source GPL license allows programmers to modify the MySQL software to fit their own specific environments.
* **TOMCAT SERVER**

WAMP Server stands for “Windows, Apache, MySQL and PHP”.WAMP is a variation of LAMP for Windows system and is often installed as a software bundle(Apache,MySQL and PHP).it is often used for web development and Internal testing, but may also be used to serve live websites.

The most important part of the WAMP package is Apache (or “Apache HTTP Server) which is used run the web server within windows.by running a local Apache web server on a Windows machine, a web developer can test webpages in a web browser without publishing them on live internet.

WAMP also include MySQL and PHP, which are two of the most common technologies used for creating dynamic websites. MySQL is a high speed database, while JSP is a scripting language that can be used to access data from the database. By installing these two components locally, a developer can build and test a dynamic website before publishing it to a public web server.

While Apache, MySQL and PHP are open source components that can be installed individually, they are usually installed together. One popular package is called “WAMPSERVER”, which provides a user friendly way to install and configure the “AMP” components on Windows.

* **NON FUNCTIONAL REQUIREMENTS**

Nonfunctional requirements are mostly quality requirements that stipulate how well the software does what it has to do. Non-functional requirements that are especially

important to users include specifications of desired performance, availability, reliability, flexibility and usability. Non-functional requirements for developers are maintainability, portability, and testability.

* **QUALITY ATTRIBUTES**

Quality attribute requirements such as those for performance, security, modifiability, reliability and usability have a significant influence on the software architecture of a system. Architects needs to understand their needs in terms of quality attributes. For example, they need to understand whether they will achieve deadlines in real time systems. What kinds of modifications are supported by their design and how the system will respond in the event of a failure? There are large and thriving attribute communities that studies various quality attributes but they each have their own language and sets of concepts. However, architects tend to think in terms of architectural patterns. What the architects needs is a characterization of architectural patterns in terms of factors that affect the various qualities attributes so that a software design can be understood in terms of those quality attributes.

In order to reason about architectural patterns in quality attribute terms, we must first precisely characterize the quality attribute requirements and then give examples of how to reason about architectural patterns. We characterize quality attributes using general scenarios codify architectural as quality attributes design primitives (or attribute primitives). Attribute primitives are the extension of our earlier work on Attribute-Based Architectural Styles.

**5. FEASIBILITY ANALYSIS**

A feasibility study is a test of a system proposal according to its workability, impact on the security of the organization, ability to meet user needs, and effective use of resources. The objective of a feasibility study is not to solve problem but to acquire a sense of its scope .During the study, the problem definition is crystallized and aspects of the problem to be included in the system are determined. The result of the feasibility study is a formal document detailing the nature and scope of the proposed system.

One of the important outcomes of the preliminary investigation is the determination of the feasibility of the system. These are different aspects of the feasibility study in the investigation phase. After reviewing the documents by selected personnel and investigating the various resources, the following are the three feasibilities.

Three key combinations are involved in the feasibility study. They are:

* Economic feasibility
* Technical feasibility
* Operational feasibility

**Economic Feasibility**

Economic analysis is the most frequently used method for evaluating the effectiveness of a candidate system. More commonly known as cost/benefit analysis, the procedure is to determine the benefit and saving that are expected from a candidate system and compare them with the term of time by automating the process of report generation. The system can be developed technically and if installed would still be good for the organization. The cost is found to be lesser compared to the benefits of the existing system. The workload of a user will decrease to half of the current workload. Hence the proposed system is found to be economic feasible “**70mm**”.

**Technical Feasibility**

Technical study is a study of hardware and software requirements. All the technical issues related to the proposed system is dealt during feasibility stage of preliminary investigation produced the following results.

**Operational Feasibility**

The developed system is completely driven and user friendly. Also the system is developed in Visual Basic, which is GUI. There is little need skill for new user to operate the software. Reports will be exactly as per the requirement. At the beginning of preliminary investigation work all the personnel approached responded positively this reduces the chance of resistance to the proposed system. Considering all the issue stated above makes the proposed system feasible.