

# Application Types

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## 1. Introduction

The phrase 'application' is used in various ways, but mainly refer to application software and its implementation. Application software as a subclass of systems software, can be defined as independent program(s), which directly allows the end-user to perform certain specific tasks such as word processing<sup>[1]</sup>. Some applications share common characteristics and features to support similar user goals and are classified accordingly.

Many types of overarching categories with their respective characteristics can be identified, depending on the view and context. This paper will distinguish between web applications, mobile & tablet applications, server applications, desktop applications and script applications. These categories can further be refined into sub-categories for supporting different user goals.

Each of these categories has specific areas of application, because of their different, distinguishable features and properties. The unique properties of each category determine the development approach selected, as well as the appropriate supporting tools catering for user requirements.

## 2. Desktop Applications

Desktop applications are 'traditional' software applications and one of the first commercially developed types. These applications are loaded onto the user machine and requires certain specifications and configurations. Users' computers are almost useless if the basic desktop applications are not available. There is an almost infinite amount of these applications available to increase user capabilities and simplify solving various problems, ranging from basic tasks to complex models and functions.

Browsers and word processor are examples of desktop applications, which have been around for a respectable amount of time with numerous improvement versions. This time-improvement factor has resulted in a competitive sector demanding close-to-perfect applications. This sector is also dominated by few software giants with a wide variety of products and highly skilled developers.

Specialized desktop applications have become the new focus of developers, as they form an expanding sub-sector. These applications offer specialized utilities and capabilities based on expert knowledge to professionals such as project managers or engineers. These

applications can become indispensable in companies and individuals, as they represent investment in knowledge capturing.

The fact that these applications contain expert knowledge and processes considerably increase the complexity of the development process. The process now requires capturing knowledge in an accurate manner and capturing it in some suitable representation such as a model. These types of applications are extremely expensive and lengthy to develop.

### **3. Web Applications**

Web applications refer to applications which rely on a network, more specifically the internet or an intranet, to provide user access<sup>[2]</sup>. This also typically means that these applications are coded in web-browser supported languages, such as JavaScript, and require the use of markup languages, such as XHTML, for display. These applications thus rely on web browsers to act as clients and provide the necessary user interface.

Web applications are extremely popular as they offer immense advantages both to users and developers. Most, if not all, computer users today have access to the internet and relevant web browsers, which significantly increases the availability of applications. Users can gain access to these applications from anywhere in the world, from any computer, running on many different platforms. Online mail clients such as Gmail offers an excellent example.

Another advantage is the significant decrease of processing and configuration demands on user machines. There is no need to download costly software, requiring time and money, or meet high performance specifications to gain access to powerful processing capabilities. The application owners take on the majority of processing responsibilities.

It is equally advantageous for developers, as it provides a way to remove some of the complexity involved in managing software. Applications can easily be made available to a wide audience, increasing manufacturers popularity. The necessity of a centralised repository for software and data also significantly increases maintainability and updates, which increases data integrity. Unfortunately, the chief disadvantage is the complexity of developing such applications, as they need to be browser compatible and must use relatively simple interfaces<sup>[3]</sup>.

## **4. Mobile/Tablet Applications**

Mobile and Tablet applications have considerably increased in popularity in a short period. This is because of user involvement and the increasing need for easily portable devices with computer capabilities and access. These devices are referred to as touch points<sup>[4]</sup>. This category of applications does, however, come with a fair amount of challenges along with all the advantages.

Modern mobile devices offer users access on the go. The demand for increasingly powerful, capable and fast mobile applications are staggering. Users value these touch points for a variety of reasons including business, for constant information instantly via email and entertainment, for the rare relaxation moments in between the rat race.

Mobile applications also increase accessibility, even more so than web applications. Almost the entire population is in possession of a mobile phone, with built-in connectivity and browser capabilities. This increases the reach of mobile applications to users not in possession of computers, but with the same basic needs. Mobile Facebook and GoogleTalk are excellent examples of mobile apps reaching out to teenagers as a developing target market.

Developing for these mobile devices can be particularly challenging. This is because of the astounding variety of continually evolving devices and uniqueness in operating systems, screen sizes and interaction models<sup>[4]</sup>. The limiting interfaces also present a problem, as users can easily find mobile applications to complex and not user friendly.

The key to success, however, is creating applications with basic compatibility but unrivalled capability. This will empower the user to such an extent that popularity will increase, providing incentive for other users to switch to supported devices.

## **5. Server Applications**

Network servers are used for a variety of purposes, distributing certain resources requested by clients. These servers can contain different application types in order to cater for all the clients' needs<sup>[5]</sup>.

Server applications are used to administrate the server, its functions and the connections. This mainly includes listening on sockets for incoming client requests, managing and distributing the resources. The distinguishing characteristic of this application type is the lack

of user interfaces as the clients act on behalf of the users, sending requests and in return receiving resources. These applications also provide other, more specific, functionalities such as managing and storing data for activities such as printing.

These applications have become essential to modern businesses as they provide the needed services to numerous user clients and enable centralization and sharing of precious resources in all forms. They also offer ways to manage these resources in an optimal and secure way to minimize delays<sup>[6]</sup>. These applications offer support to the other software types, such as web applications, by providing processing capabilities and accurate data.

Developing these applications are relatively complex, depending on the server purpose and available tools. High traffic, crucial servers' applications demand intensive developing efforts as entire networks can depend on their functioning capabilities. These applications become entangled in a complex interacting network and thus requires a unique approach to ensure accurate system development that meets the requirements.

## **6. Script Applications**

Scripting applications are small, self-containing programs dedicated to performing a specific task or procedure, which is usually more administrative in nature. These applications are usually not used by the common user and thus do not include Graphical User Interfaces.

Scripting languages such as C# was often called job control languages as it is used to control, manipulate and direct other applications<sup>[7]</sup>. These applications are thus mainly used by administrators to control the background processes of applications and interactions between various components. They are thus short lived, to-the-point applications dedicated to specific tasks and do not need to be compiled.

These types of applications are the easiest to develop as it is fundamental to all other applications and programmers receive basic training in them. They are more commonly used than users may think and very useful for seldom requested tasks.

## **7. Conclusion**

The importance of all types of applications, as the centrepiece of modern systems, are apparent. They serve as the fundamental building blocks for great and complex systems within interconnected environments. The immense interest and popularity of modern computing can be attributed to these applications, as they provide the useful functionalities in systems.

Each type of application has a specific purpose in different environments and one can not be labelled as more important than the other. It is, however, necessary to evaluate the advantages as well as the development challenges faced by each type before decisions regarding the development process is made. The user's experience, environment, advantages, disadvantages should also be considered to gain a holistic view of the system and successfully meet the system requirements.

All types of applications have one core thing in common, they all support users by empowering them and aiding them to complete their tasks as quickly and easily as possible. If applications do not directly or indirectly do this, then it does not deserve to be called an application.

## 8. References

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