Web Based Collaborative Application Form Agent System

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ABSTRACT

This research employs the intelligent application form agent to help people to locate the information they would want from Internet quickly. Based on Internet GUI environment, this user-friendly online application form program uses the agent concept to provide the customized, individual information to the users who registered their application form answers, to the extent of increasing the interest and participation of users. The system helps along with the decision making process, by quickening the information gathering process.

1. INTRODUCTION

With the development of Internet, many businesses and public organizations have shifted their offline operations into online. Growing number of users prefer the online services for their ease of use. Online applications to colleges and universities are a part of the trends of going online. Online application saves the trouble of going to a particular university for handing in an application. Students are embracing online application because they can resolve the problem of wasted time and money. With the online application, applicants can get their application form processed by a university and receive the acknowledgement for college entrance exam online, while checking out the competition rate and the latest updates for the program they are applying at the same time. Internet security is prerequisite to the winning strategies for the online application system.

The online applications should be provided in GUI environment for the ease of use. Online applications have prospered, as the Internet is where the interest of universities and applicants are intertwined. However, the extent of Internet being used for college entrance is limited in terms of interface and extent of application services. The agent for university applications adds dimensions to the user interface to expand the scope of online application services as well as supporting the application process itself. In addition, the agent does the automatic processing of the applications using the online member information and alerts applicants via emails, when new opportunities open up[1,2].

Taking advantage of the benefits the Internet offers, the research incorporates the automatic mail services to the online application members based on the web GUI. This research focuses on obtaining reliable data, constructing the flexible and individualized application forms on the Internet using the

online agent. The online agent used in the automatic submission of the application or mailing of the application based on the compilation of personal information will find its applications with almost all the details of our lives, making them a whole lot easier[3,4].

2. THE HISTORICAL BACKGROUND

2. 1 The Internet GUI environment and the Agent

Graphic User Interface (GUI) has become a household item with software developers. As indicated in the term, GUI refers to the operating environment where users exchange information with the computer through the visualized interface. Before GUI, users press command buttons on the keyboard to make an input into their computers and computers show the output in characters. GUI incorporates mouse that enables users to click on the icons, visual representations of command buttons, to get the application to work for them. GUI technology has become the backbone to the development of the Internet. When Internet first came around, it was primary text-ridden windows. The rapid advancement of telecommunication technologies has taken Internet from the static texts on Internet to a virtual space that dynamically reflects user activities, like inputting texts, movement of mouse to click on the icons or to select a menu, which then triggers command to get a given process started.

The original definition of an agent is a person or organization that does your work on behalf of you. The agent in this research can be identified as a "program" that completes a computing process for users. The agent in the context of the research makes arrangement to find appropriate information for members.

As the information available on the Internet keeps growing leaps and bound, it is difficult to locate the information that matters to users. This agent retrieves the information users are looking for on behalf of them[5,6,7].

2. 2. Case studies

As an increasing number of universities are opening up these days, they are paying more attention to advertising and promoting themselves to the potential applicants. Many universities are using the mass media so that they got far-reaching coverage. However, the mass media doesn't come at low costs. Internet has the same advertising effect as the mass media in terms of exposure at a much lower cost than the other forms of media. University applicants can compare the application procedures and the competition rates of universities at one website, and saves time and money that would otherwise have been spent visiting the universities to hand in the applications. In addition to the university, the online application process will make one of the routines of modern lives - the application- trouble-free and accessible to the wider range of public. Application process is mostly commonly found in universities. The application processes have been widely used outside the education field, but it is universities that have extensively adopted the online applications. On top of the low operation costs, the online application has the added advantage of producing a much greater promotional effects than offline application procedure. The online applications are providing the varying degree of services including presenting the application procedures of different universities and the competition rates at a glance. As the application process takes place via Internet, they can have the online services send in the applications to all the universities they are applying for instead of themselves shuffling from university to university just to hand in their application forms. The online services reduce the lag time caused by the visitation to the universities and the money spent on transportation. Comprised of procedural steps, the online application services guide the applicants through the steps to the completion of applications, design feature with the consideration for the users.

Application to the universities is one of the fields that have been rapidly computerized, because of the ease of use for applicants and the centralized administration for the university administrators. The currently operating online application sites have universities join their sites so that they can offer the latest updates about member universities. Making the most of the benefits of the Internet, the online application websites enable the membership enrollment, the processing of applications and the printout of the acknowledgement at one site. In addition, they are providing with the applicants the information about the member universities and the updates of the competition rates.

The current online application services are limited to application for the universities, competitions and professional certifications. With the professional certifications, the straight online application services are effective enough, because it usually engages one organization that administers the certification. However, the online application only services for universities and for competitions don't justify full-time operations of the websites, because universities and competitions usually accept applications once a year. The mailing services that come with the online application are used exclusively for delivering information, falling short on fulfilling the maximum value. As the workflow of registering application is designed for the convenience of website administrators, the application process takes long time. The online application services should develop the mechanism that migrates member information to the application forms and diversify the type of applications they are providing to keep their websites up and running all year round. The online

application service providers should refer to the interests of members to cater their mailing services to the needs of individual members as opposed to sending uniform emails containing the same information for all the members.

3. THE ONLINE APPLICATION AGENT

The current online application websites are geared towards universities, reducing its operations to once a year event. This research will make some suggestions to improve the operational practices of the online application services. First of all, the online application service providers should make their websites more accessible to the public. As mentioned earlier, the online application sites have focused on universities applications. By expanding the services to organizations outside universities, the online application sites will be more frequently used. By turning the services into multi-purpose, it encourages the users to come back again for another application services. The first step to take is to make it widely accessible to the public. The next step is to make an application simple to create by using the member information that already exists in the online application websites. Then, the agent will submit the application for the members to the organizations. The agent fills out the applications for members based on the member information, once they select an application they want to complete. This will make the online application a lot easier. For the users who declare their interest to the online application sites, the services will alert them to the information on the certifications or educational institutions that are offering the courses or certificates in the members' field of interest. The mailing services provide members with what they are looking for, saving them from the troubles of searching for the information of their own. If an application goes on the site and a specific group of users is interested in, the online application services will identify the members who may use this application and alert them to the application. The instant user alert function, membership information and the agent for application will sustain the membership base over the long-term period[8,9].

4. CONFIGURATION OF THE ONLINE APPLICATION STRUCTURE

The agent operates on the web GUI to make the online application builder user-friendly and to increase the level of satisfaction on the online application. The agent goes a way beyond throwing simple information to the members. It employs a highly structured platform to the online application in order to ensure the information contained in the application makes sense to the organizations accepting applications. The agent might be different from the present online application services in terms of configuration, but the objective of agent configuration is closely linked to what the conventional configuration has pursued[10].

4.1 Design for online application structure

The workflow of online application will be described in the Figs presented on the next page. In the Fig 1, ① and ②, the online service confirms the identity of an organization and saves its form onto "Application Registration Database," when a member completed their application form and registered it
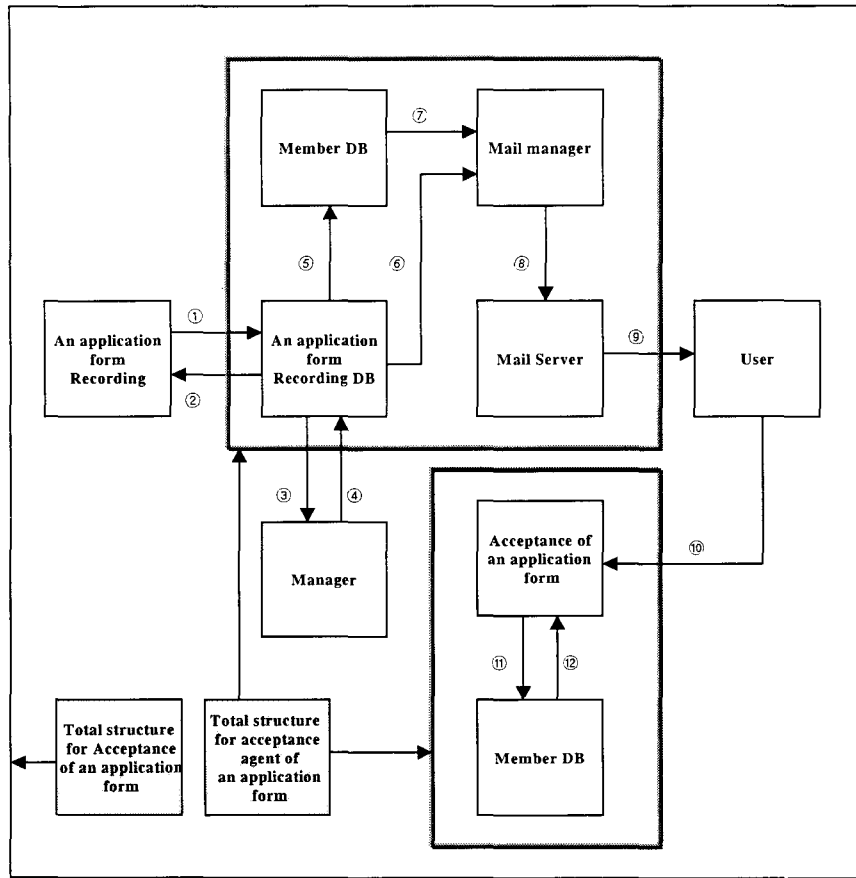
Fig 1. An application form structure

with the online application services. Next, the Fig ③ and ④ is the process that the website administrator verifies the application form, checking out for the authenticity of the application form and seeing if the necessary details are all included. The agent takes over, once the verification of information is done. The agent goes through the member database based on the registered application form, as shown in the Fig ⑤ to sort out the members who might be interested in newly registered application and to give them an alert. After sorting out the members, the agent sends out the application information and the list of selected members to the mail administrator as shown in the Fig ⑥ and ⑦. Upon retrieving the information, the mail administrator creates a template of the email to be distributed to the selected members and forwards the email template and the list of members to the mail server as shown in the Fig ⑧. Then, the mail sent to the members indicated that the application they may be interested in have become available on line (Fig ⑨). When members found the application online, they go online to fill out their application form (Fig ⑩). The agent comes back in to assist members with the completion of online application. As a member selects the application form they want to hand in, the agent browses through the member database to pick up the member's default information from the database and fill out the personal information with it (Fig ⑪ and ⑫).

The member will check out the default information (the personal information provided by the member, when they

signed up the website) that goes into the application form one last time and makes modification, if necessary, before they hand in the application to the organizations.

4.2 Processing online application

The Fig 2 that shows above demonstrates the procedure of online application being processed, based on the above structure.

As mentioned earlier, the structure of processing application comes down to the agent's browsing the member database and mailing off the application information to the selected members who might have interest in the application based on the registered information on behalf of administrators or members. When members hand in their online application forms, the agent searches the member database to fill in the missing piece of information and makes sure the member's application copy meets the standard set by the author of the application.

5. CONCLUSION

The online application services are becoming tangible and affordable promotional tools for an increasing number of universities that are spending a significant portion of budget on advertising, in a situation where more universities are opening up and entering the competition to attract talented students. The
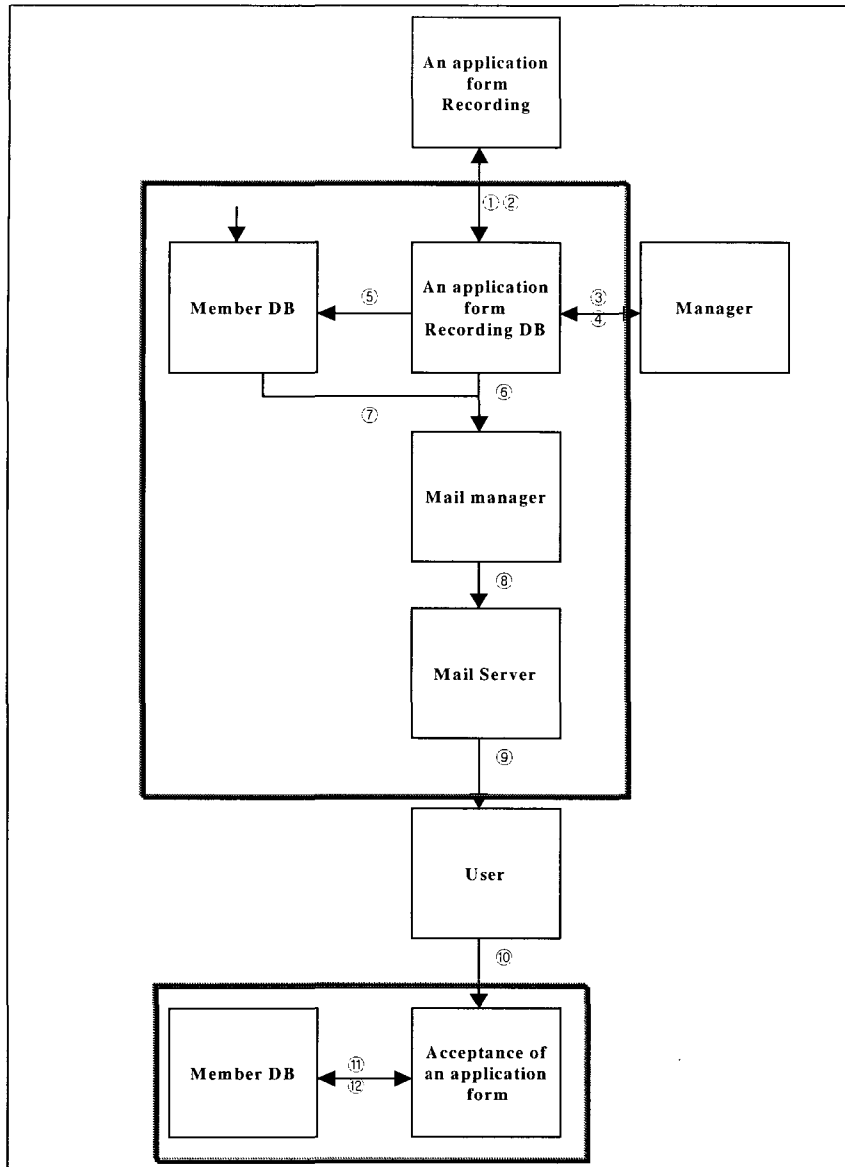
Fig. 2. An application form progress diagram

online application also helped university applicants save money and time that would otherwise have been spent visiting the universities to hand in the applications. The online application services, however, should go beyond the educational sector and find the use in day-to-day lives by enhancing the user interface. Making most of the benefits the Internet brings to our lives, the online application services should provide the updates of the competition rates and the latest information of the university programs the applicants have applied for to keep members loyal to the services. The online application services should offer one-stop service ranging from accepting application to issuing the acknowledgement of application to provide opportunities for the members to interact with the websites. The application service fills out the application for the members based on the default information provided by the member and sends out the application to a designated recipient, making the service very user-friendly. When new application is released to the website, the application services sorts out the members who might be interested in the application from the member

database and relay the information via email. The email alert performed by the agent delivers the information members looking for to their individual email account and saves the members from searching for the application information, to the extent of keeping the users interested in the services.

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