PaperWhy

Team Name: AndroCoders

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Abstract

PaperWhy is a mobile application that aims at creating a platform for generating, transferring and storing certificates related to the clubs of the college. This will, in turn, reduce the amount of paper used in the institution. It will serve as a social media platform for event managers. The users of this app are relieved from the tedious task of searching for their certificates when it is needed. The application also notifies all the users about upcoming events. Thereby ensuring that all the students are well informed.

Introduction

PaperWhy is a unique solution for the generation and distribution of E-certificates. The solution consists of two applications, namely the user application and the event manager application. The event manager app generates the required number of certificates and transfers them to the respective user. The transfer is done by a simple scan of the recipient's QR code.

The event manager has to register his event by providing details such as venue, date, time, registration links, etc. Then he has to input the exact number of certificates needed for a particular event. The application simply generates the required number of E-certificates. The certificates generated are stored in a buffer until they are transferred to the recipient. The application has a scanner which is used for the transfer of the certificates. The registered events, get advertised on the user application with the provided details.

The user app is a repository of certificates won by a particular user. Each user is given a unique QR code, which when scanned, transfers the certificate from the event manager app to the user app.
The "name" to be printed on the certificate is taken from the user profile, so as to eliminate spelling errors. The certificates can be sorted based on date, category and awards. The user app also showcases upcoming events with registration links, date, time, place and other relevant information of the respective events.

The font used on the certificate is unique, in order to avoid fabrication of the details. Special access is given to the club coordinator to verify the certificates that are transferred in order to avoid mishaps.

Methodology and Tools used

The Agile methodology was used to develop the product as a response to growing frustrations with Waterfall and other highly structured, inflexible methodologies. This approach is designed to accommodate change and the need to produce software faster. We have used the following tools for application development:

- Android Studio - IDE for development
- Bitbucket and Git - Version control system
- Adobe Xd - UI Design software
- Font generator - to generate a unique set of fonts

Control Flow Diagrams

1. Event Manager - side

```
┌──────────┐      ┌──────────────┐      ┌──────────┐
│ Sign-Up  │ ───▶ │    Input     │ ───▶ │  Login   │
│          │      │ User Details │      │          │
└──────────┘      └──────────────┘      └──────────┘
                                              │
                                              ▼
                                        ┌──────────┐
                                        │Home Page │
                                        └──────────┘
                                              │
                                              ▼
                                        ┌──────────┐
                                        │Create Event│
                                        └──────────┘
                                              │
                                              ▼
                                   ┌──────────────────┐
                                   │ Create Competition│
                                   └──────────────────┘
                                              │
                                              ▼
                                   ┌──────────────────┐
                                   │      Input       │
                                   │Competition Details│
                                   └──────────────────┘
                                              │
                                              ▼
                                   ┌──────────────────┐
                                   │Generate Certificates│
                                   └──────────────────┘
                                              │
                                              ▼
                                   ┌──────────────────┐
                                   │Transfer Certificates│
                                   └──────────────────┘
```
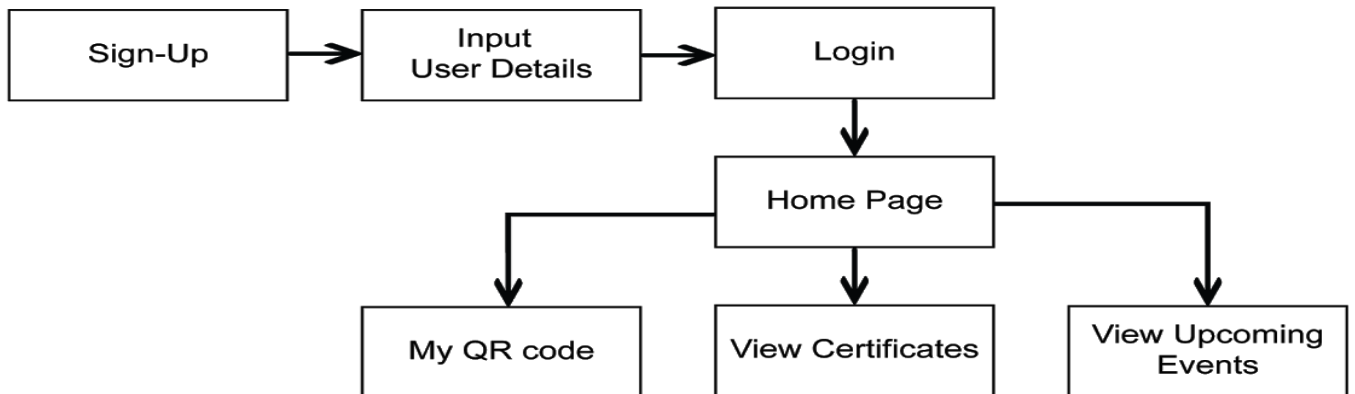
2. User-side

Sign-Up → Input User Details → Login → Home Page → My QR code, View Certificates, View Upcoming Events
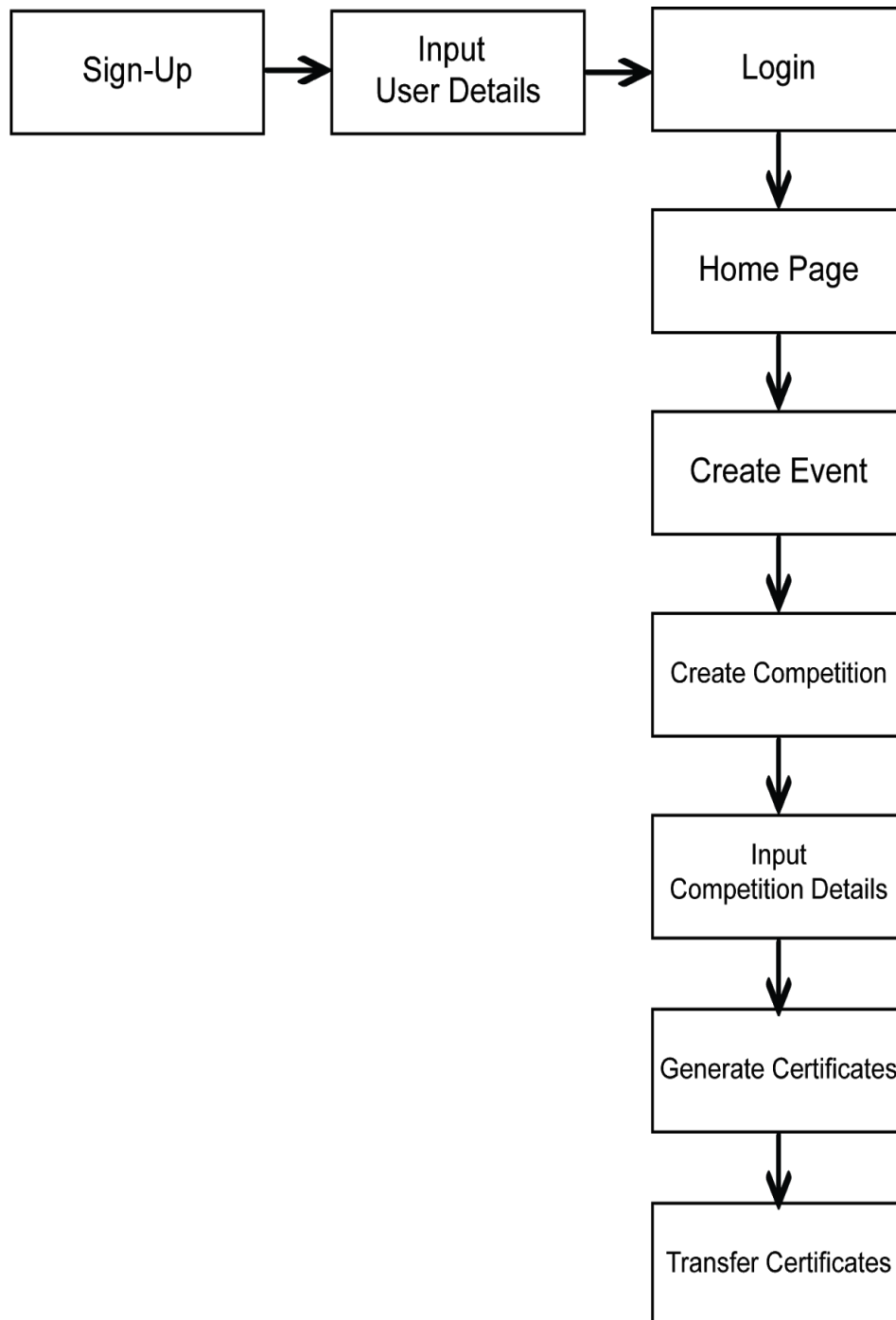
Motivation

- Most of the time, we misplace our certificates. In order to ensure that we don't have to scratch our head to find them later, our application provides cloud storage with which we can access and admire our certificates at any time from anywhere in the world.
- Our concept is eco-friendly and futuristic as it reduces the usage of paper.
- It's difficult to sort or arrange certificates when we present it to others. However, with e-certificates, we can sort them in order based on the position of the prize secured, year, etc.
- It's hard to upload all our certificates to professional networks like a LinkedIn profile which boost our resume. We can have a plugin to integrate our application with any professional network.
- Paper-based certificates might fade over a period of time, but e-certificates are evergreen!
- This can be used as a standard certificate template once the users increase and hence increasing the value of our certificates.
- Many a time, names are misspelt in certificates due to human error, and hence prize winners feel bad about this. Our application provides a unique solution to this. It fetches the full name given by the user at the time of sign-up. So, no room for spelling mistakes!
- In a college where so many events happen in a year, we probably forget the date or lose the registration links. Hence, it's good to have a common platform where we get all the details about upcoming events in our college.
- Paper-based certificates cost around 25-30 rs per copy. E-certificates are very cheap!

Social Impact

- Normally a college prints around 2000 - 4000 certificates and hence, a total cost of approximately Rs. 50,000 - Rs. 1,00,000 is spent. With the usage of e-certificates, the cost can be cut down by a very large margin and indirectly we help save the environment by not using papers. Hence, our approach is both eco-friendly and cost-effective.
- With the usage of unique admin generated font, it's nearly impossible to forge the certificates. Thereby, making the certificates trustworthy.
- Since we transfer certificates through QR codes, we preserve the pride of receiving certificates by dignitaries and this new way will look cool in front of an audience.
- Certificates can be generated instantly within a minute or so, hence it saves a lot of time from the perspective of an event manager.

Market Survey and Future plans

- Currently, our plan is to establish a user base. Once we have a good number of users, we can slowly start premium advertising for the events.
- Users can upgrade to a premium account, which offers services like plugin for linking their profile with professional networks, extra sorting options, early notifications about upcoming events and reminder for events.
- We can develop this as a social media for event management and hence, there is a lot of scope for data mining and targeted marketing. We can have a credit system for the certificates and develop a competitive spirit among the users.
- We can also develop a random teammate finder to participate in team events and chat rooms to discuss among teammates.
- Once the user base is established, our application will be a brand in the area of e-certificates. We can provide our own standard templates for the certificates with some watermark or provide an interface where the event managers can develop customized templates by paying some nominal charges.