**CS307 Project Backlog**

**TicketVault**

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**1.Problem Statement**

We would like to create a ticket reserving website that has a well-organized UI to help student quickly find their favorite events and reserve tickets for them. When we want to reserve tickets for events held by student organizations, usually we need to attend to their tickets sell table, which is time consuming and inconvenient. In addition, existing events websites, such as: BoilerLink, do not provide ticket-reserving service.

**2.Background Information**

a) **Background information about the problem:**

**Domain:** Electronic tickets booking

**Target users:** Purdue University students and organizations

b) **Similar systems:**

1)    BoilerLink (http://boilerlink.purdue.edu)

2)    Student organization on Facebook

c) **Limitation and solutions:**

*Limitation:* None of the similar systems provide ticket-reservation service

*Solution:* adding buttons to the events page, which can redirects user to ticket-purchasing pages. Also, adding buttons in organization user’s personal page, which allow organization to add new events or manage current events.

*Limitation:* There are too many student organizations’ Facebook pages, which make it very hard for students to quickly find the events they may be interested in.

*Solution:* Saving all events in database, and adding quick search on the homepage. Users can either manually spell events’ name or looking up events by categories.

**3.Requirements**

**a) Functional Requirements**

1) Website sign-up.

   As a user, I would like to sign up for this website.

Adding a sign-up button at the top of the webpage. After clicking on the button, user will be redirected to sign-up page that requires user to type in information such as username, password, email, etc. There will be a “submit” button at the bottom of the page, which will send user’s information to our database, and redirect user back to homepage.

2) Website sign-in.

As a student user or organization user, I would like to sign in and get access to specific pages.

   Adding a sign-in button at the top of the webpage, which will prompt text fields that ask for user name and passwords when it is clicked. There will be two buttons labeled “sign in as a student” and “sign in as organization” below the text fields. After typing usernames and passwords, and clicking on the button, the users will be signed in and their usernames will appear on the top on the page.

3) Profile page

   As a user, I would like to browse and edit my profiles.

   Users can get access to their profile page by clicking on their usernames located at the top of homepage. The profile page should display user’s personal information, such as: name, billing address, payment information...etc. Users will be able to edit these items by click on the “edit” buttons next to them. The labels will become text fields if “edit” buttons are clicked. There will be a “submit” button appears at the bottom of the page if users click either any of the edit buttons. All changes will be sent to database, once users click the “submit” button.

4) Ticket management page

As a student user, I would like to manage the tickets that I have reserved. As an organization user, I would like to create events and add ticket information.

       There will be a “manage my events” button on the top of the webpage, which will redirect users to the tickets managing page if it is clicked. In that page, there will be a list of the events that they have created or purchased tickets for, located below the label “my events”. Each event will contain a hyper link, which will redirect users to the detail info page of the event if users click it. In detail info page, organization users will be able to edit the event’s poster, introduction, and tickets information by clicking on the “edit” buttons next to the items. In addition to editing events’ info, organization users are also allowed to create new ticket-reserving events. There will be a button labeled “create new event”. After click on that, users will be redirected to a new page where they can upload event’s poster, write introduction, and set the ticket price. For student users, they will be able to cancel the reservation by clicking on the “cancel” buttons on the detail info page.

5) Ticket reserving

As a user, I would like to reserve tickets for the events that I like

In the detail info page of an event, there will be two buttons “reserve now” and “add to cart” below the introduction of the event. If users click “reserve now”, they will be redirected to the agreement page, which shows the reservation policy. There will be a button labeled “I agree to the agreement above, reserve tickets now!” below the policy. It will redirect user to a new page that shows “Tickets are reserved! Events official will contact you in just a second!”, if the button is clicked. Both users and organizers’ contact information will be sent to each other. There will be a timer appears next to the reservation on user’s profile page, which shows how much time left before the reservation is cancelled. User will have 2 hours to contact events official and make the purchase by electronic transfer, such as: PayPal and QuickPay, if they all agree. After 1 AM, all reservations functions are suspended, unless organizers enable “late night sale” function by clicking on the buttons “enable late night sale” in the event editing page. With “late night sale” function enabled, users will be able to reserve tickets as usual. If the “late night sale” function is disabled and users attempt to reserve tickets after 1AM, it will prompt a bubble that says: please reserve the ticket after 8AM. When user is logged out, the reservation still exists. If users click “add to cart”, it will prompt a bubble that says “Successfully adding to cart ”.  User will have 10 minutes to make a decision before the cart is cleared.  After users making purchases, organizer may update the remaining tickets numbers by login to the detail info page and click on the “edit” button, then type the correct remaining numbers of tickets.

6) Category searching

As a user, I would like to search for the events that may interest me.

   There will be a filter at the left of the homepage, which can filter events by categories, such as: shows, parties…etc. After selecting a category, all events that are in that category will be displayed at the right of the page. In addition, there will be buttons at the top, where users can chooses between organizations or events to find the events they may like to join.

7) Events bookmarking and updates (If the time allows)

   As a user, I would like to manage the events that I like and be notified if some of them are close to closing.

   There will be a bookmark button in the detail info page of each event. If users click on it, the event will be saved into their personal profile. In user’s profile page, there will be a button labeled “my favorite” under the purchasing buttons, which will prompt all the events that were bookmarked. If some of the events that were bookmarked are about to close, like 2 or 3 days before the closing, there will be a bubble that says: “XXX is closing in x days, order tickets now!” pops up each time the user is logged-in.

8) Payment page (If the time allows)

As a user, I would like to make payment directly through secured way, such as: Paypal

Instead of “reserve now” button, there will be a “buy now” button next to “add to cart” button on the event detail page. After users click on the “buy now” button, they will be redirected to an agreement page, which shows the cancel and modify policies. There will be a button labeled “I agree” below the agreement, which will prompt a Paypal login window if it is clicked. User may login in to Paypal and click on “make the purchase” on that window. Once user makes the purchase, the webpage will be automatically refreshed and redirect to a new page that shows “Thank you for your purchase!” User may go back to homepage by clicking on the “home” button at the top of the page, or waiting for automatic redirection.

9）Recommendations of popular events (If the time allows)

   As a user, I would like to browse the events that most people bought tickets for and perhaps buy tickets for it as well.

     We will implement an algorithm that will reflect the most popular events in the homepage. It will calculate and show the events that have largest percentage reservation or selling during the past hour (i.e. if an event originally has 100 tickets and 90 tickets were reserved or sold during the past hour, then the percentage reservation or selling is 90%). There will be a scroll bar at the bottom of the webpage, which will show the pictures of posters of the most popular events at the moment. When users click on the picture, they will be redirected to the detail info page of the event

**b) Non-Functional Requirements**

1) Quick response time

          As a user, I would like the sign-in, sign-up, searching, ticket purchasing process response quickly.

          We will implement a fast searching algorithm, such as binary search, to quickly search for users’ personal data in database. All actions should not take more than 3 seconds to response, especially the action take place in ticket purchasing page, such as reserve or make purchase.

2) Password encryption

As a user I would like my personal information be perfect secured.

We will implement a hashing encryption to protect user’s passwords. It first converts all passwords into binary, and then adds up all values in corresponding rows in the key table to generate a new binary. Finally, convert the binary back to characters and stored in database.

3)    Organization verification (If the time allows)

As a student user, I would like the event that I purchased tickets for and organizations are real, not scam.

     We will manually add organizations to our website and also take applications from organizations by phone call or meeting. If organizations do exist and hold events frequently, we will create organizations accounts for them, and send usernames and passwords to them.

   4) MySQL for database, PHP/HTML/JavaScript for webpage building.

          A database is needed to store all the user data, such as: profiles, events, and tickets. Web design requires HTML and JavaScript