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1 The Team and SCURN URL

Team Name	Team_SCURN
Project Title	SCURN – Santa Clara University Recycling Network
Course	COEN 276 – Web Programming
URL	http://students.engr.scu.edu/~pganesan/coen276/project/scurn/php
Team Members	Brinda Sivalingam Poornima Ganesan Preeti Thorat

2 Technology/Tools


Client Side	Languages	XHTML, CSS, JavaScript
	Technology/External Libraries	AJAX, JQuery, JQuery UI plugin
Server Side	Language	PHP
Others	Web Server	Apache
	Database	MYSQL 5.2
	Tools	<ul style="list-style-type: none"> MySQLBuddy MYSQL Workbench – for database modeling and creating ER diagram Gimp – Image editor Inkscape – to create SCURN logo in SVG
	IDE	Eclipse, Aptana Studio

3 SCURN Features

3.1 Functional

- Tabbed implementation of Home, Products, Forum, Quiz and Recycling stations pages using JQuery UI tabs.
- Logo for SCURN web app created using SVG.
- Locate a recycling station – Enlarged view of map available upon clicking on recycle campus map (zoom in/out feature)
- Sign In box that slides up and down, similar to Gmail GUI.
- Member “Update Profile” page.
- Consistency in error handling using JQuery UI error handling scripts and css.
- Google search query in Home page.
- Embedded youtube video in Home page that highlights the theme of SCURN.

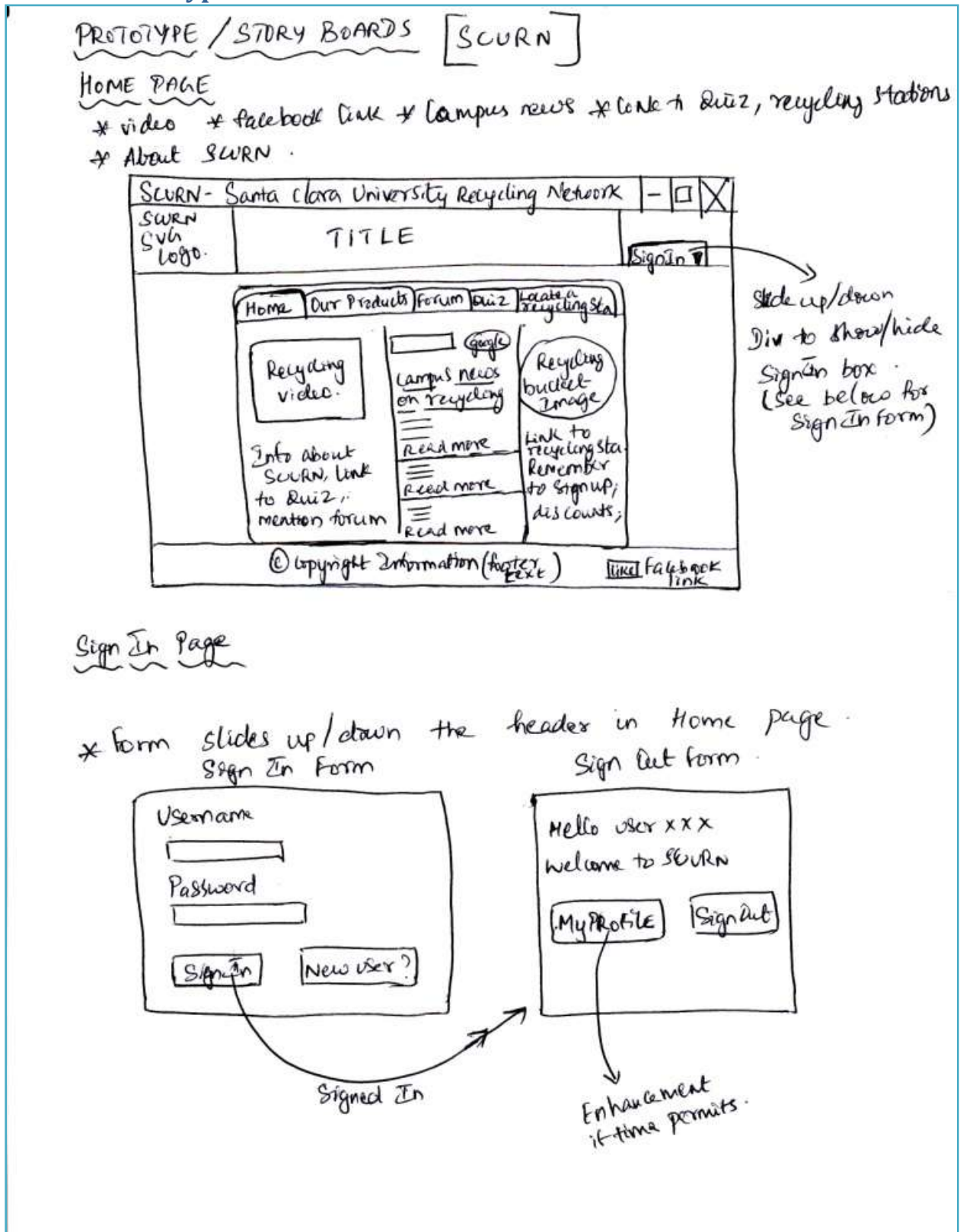
- Created a facebook app for SCURN and provided a link in SCURN web app so that user can like the page or log on to Facebook to post comments in SCURN facebook page.

 You must choose atleast one product before checking out

3.2 Technical

- Each HTML request/response within the tab is handled using AJAX. The team explored how to implement AJAX using JQuery in this project.
- Database transactions using Object oriented programming - All database calls are contained in a DBUtil class that provides public member functions such as insert, update, delete, query(select), iterate (resultset), connect() and close(). Other php classes only need to instantiate DBUtil and invoke the relevant member functions to do the job. They do not have to worry about DB connection management and underlying SQL calls from PHP.
- New User, Update User profile, creating forum categories & topics and alert messages are implemented using JQuery UI modal dialogs instead of plain pop-ups.

4 SCURN Prototype



New User - Member Registration page

- * Open dialog using JQuery UI dialog * Need to validate form fields (use regex).

Member Registration

Personal Information

Fname Mname Lname

Addr city state zip

Email Phone

Account/Password Information

Username Password

Billing Information

Card type Card number

Expiration date (mm/yy) Cardholder name

Create Account Cancel

} Fieldset 1

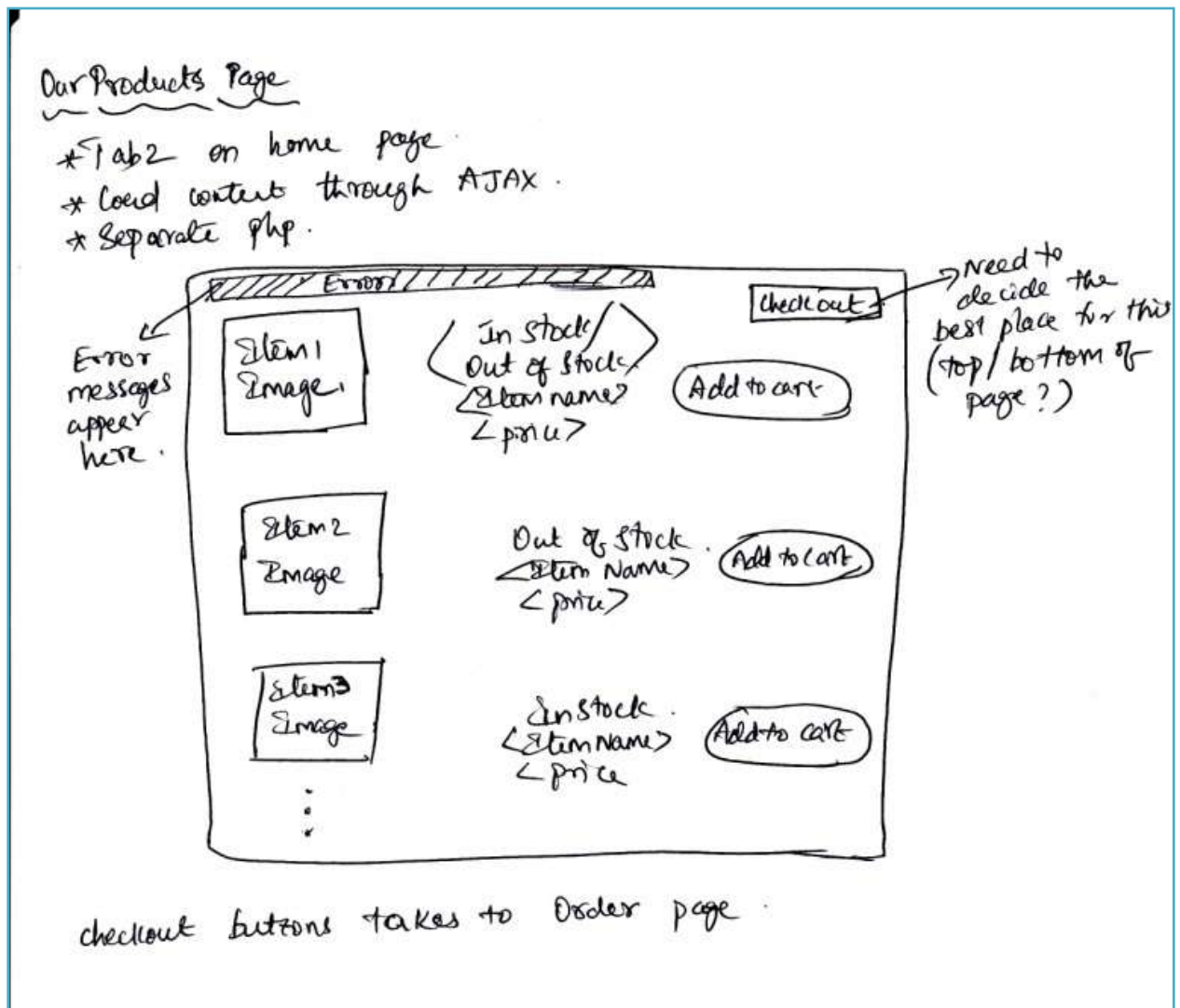
} Fieldset 2

} Fieldset 3

My Profile Page

- * Similar to Member Registration.
- * Provide buttons for update, cancel.
- * Need to validate form fields.
- * Three fieldsets → Personal Information, Account Information, Billing Info.
- * Populate form fields from database, on load of dialog.
- * Disable username field (cannot be edited).

Submit form. → close dialog.



Order Page

- * Tab2 loaded again replacing "Our Products" page.
- * content on separate php, loaded through AJAX.

Non-member Order page

Product & Shipping Info

Register with us for 10% discount!

Product Name	Price	Qty
Item Name 1	{<price>}	<input type="text" value="1"/>
Item Name 2	{<price>}	<input type="text" value="2"/>

Shipping

Tax \$

Total \$

Card details/Billing Info

Card number Cardholder Name

Expiration Date (mm/yy).

Shipping Info

fname lname mname

Addr city state

zip Email phone

Annotations:

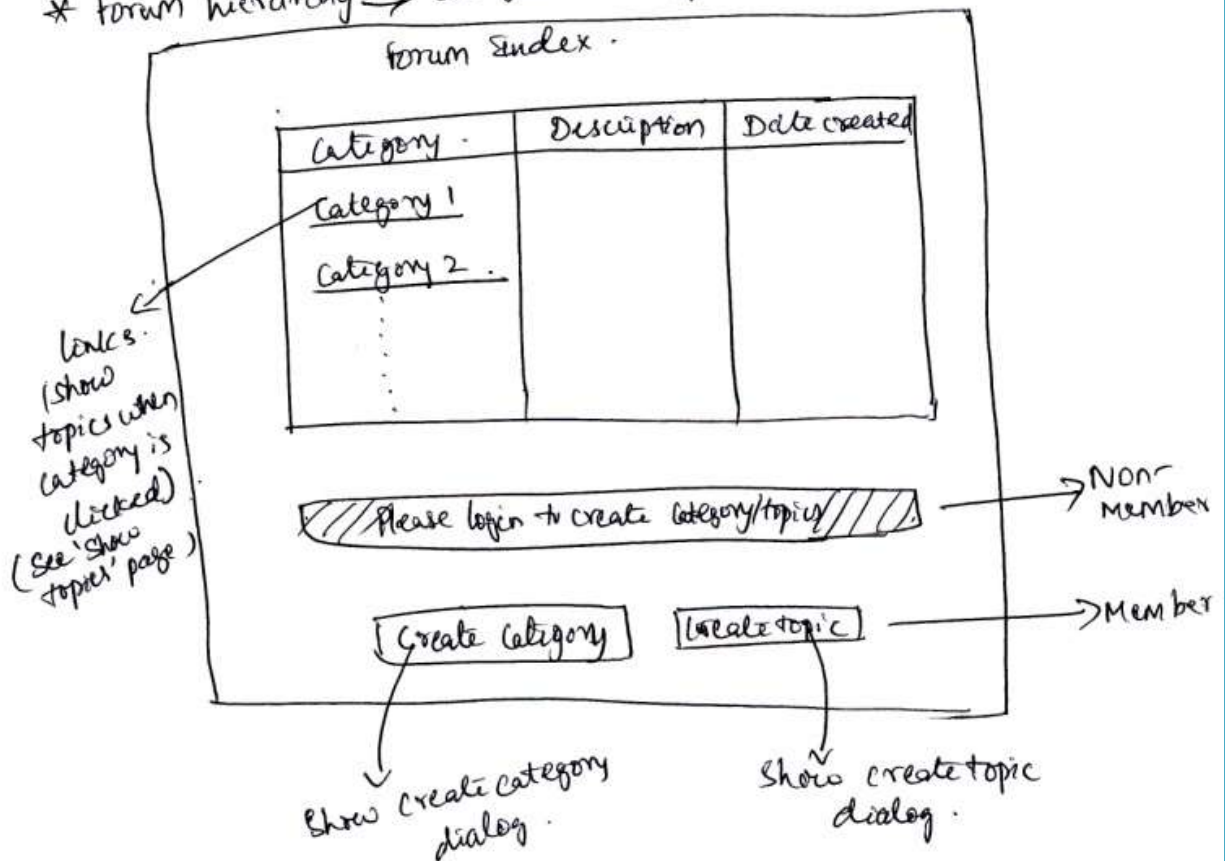
- show an information message if qty is out of stock.
- populate form database all shipping values.
- may be dropdown is better.

Member Order Page

- * Same layout
- * Do not show "Register with us for 10% discount" message.
- * populate card details & personal profile info from database.
- * Add discount before total.

Forum Page

- * Tab 3 loaded with contents of forum.php.
- * Separate php; loaded through AJAX
- * forum hierarchy → Categories → Topics → Post.



Create category dialog.

- * dialog opens in popup.
- * use JQuery UI dialog.
- * Only for members.

Hand-drawn sketch of the 'Create category' dialog box. The dialog has a title bar 'Create category' with a close button 'X'. Inside, there is a hatched 'Error' box at the top. Below it are two text input fields: 'Category Name' and 'Category description'. At the bottom, there are two buttons: 'create category' and 'cancel'. Annotations include: 'Show/hide error message' pointing to the error box, 'Submit form' pointing to the 'create category' button, and 'close dialog' pointing to the 'cancel' button.

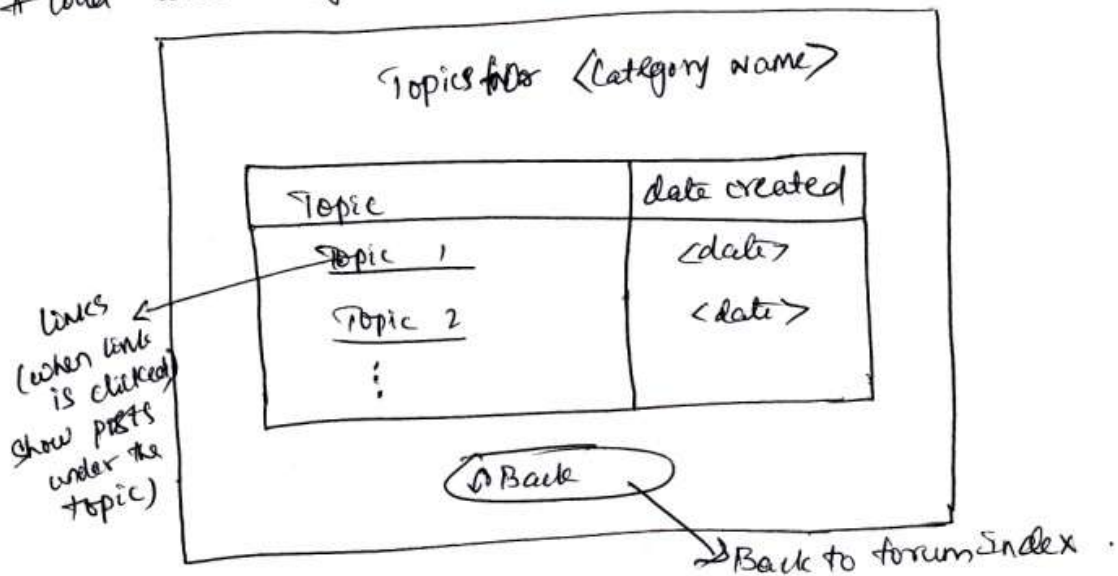
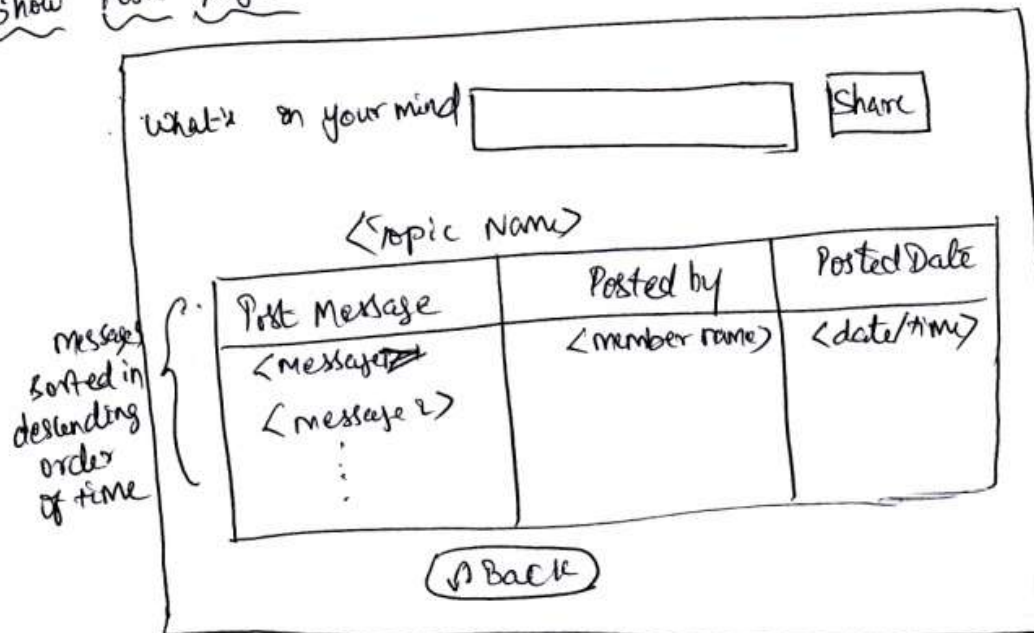
Create topic dialog.

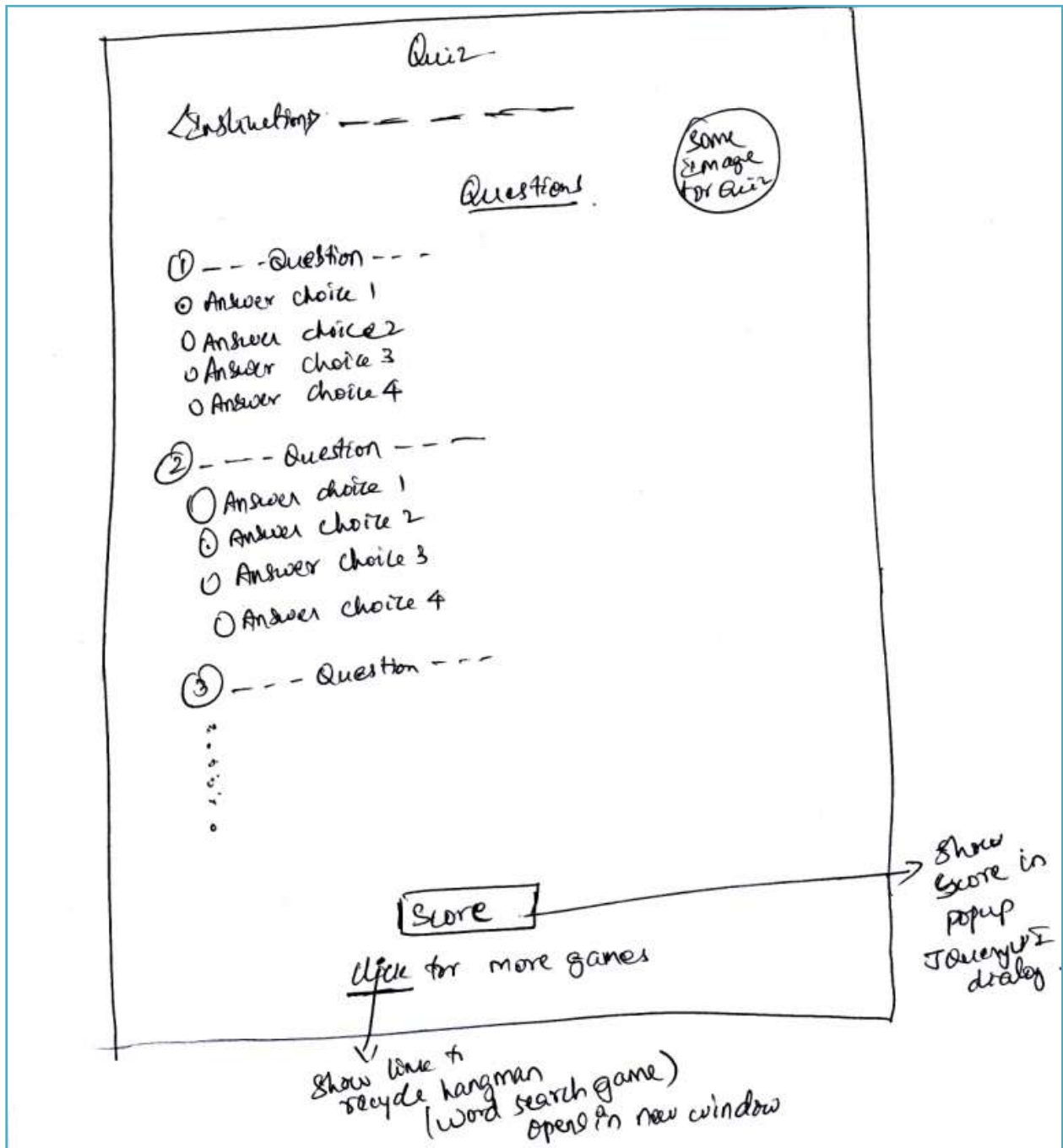
- * dialog opens in popup.
- * use JQuery UI dialog.
- * Only for members.

Hand-drawn sketch of the 'Create Topic' dialog box. The dialog has a title bar 'Create Topic' with a close button 'X'. Inside, there is a hatched 'Error' box at the top. Below it are three input fields: 'Topic', 'Category' (with a dropdown arrow), and 'Message to post'. At the bottom, there are two buttons: 'create Topic' and 'cancel'. Annotations include: 'show/hide error message' pointing to the error box, 'show list of forum categories from database' pointing to the 'Category' dropdown, 'Submit form' pointing to the 'create Topic' button, and 'close dialog' pointing to the 'cancel' button.

Show Topic page

- * When category is clicked, show all topics in that category.
- * Replace contents of forum tab with topics content.
- * Load content by AJAX.

Show Posts page



Locate a Recycling Station page

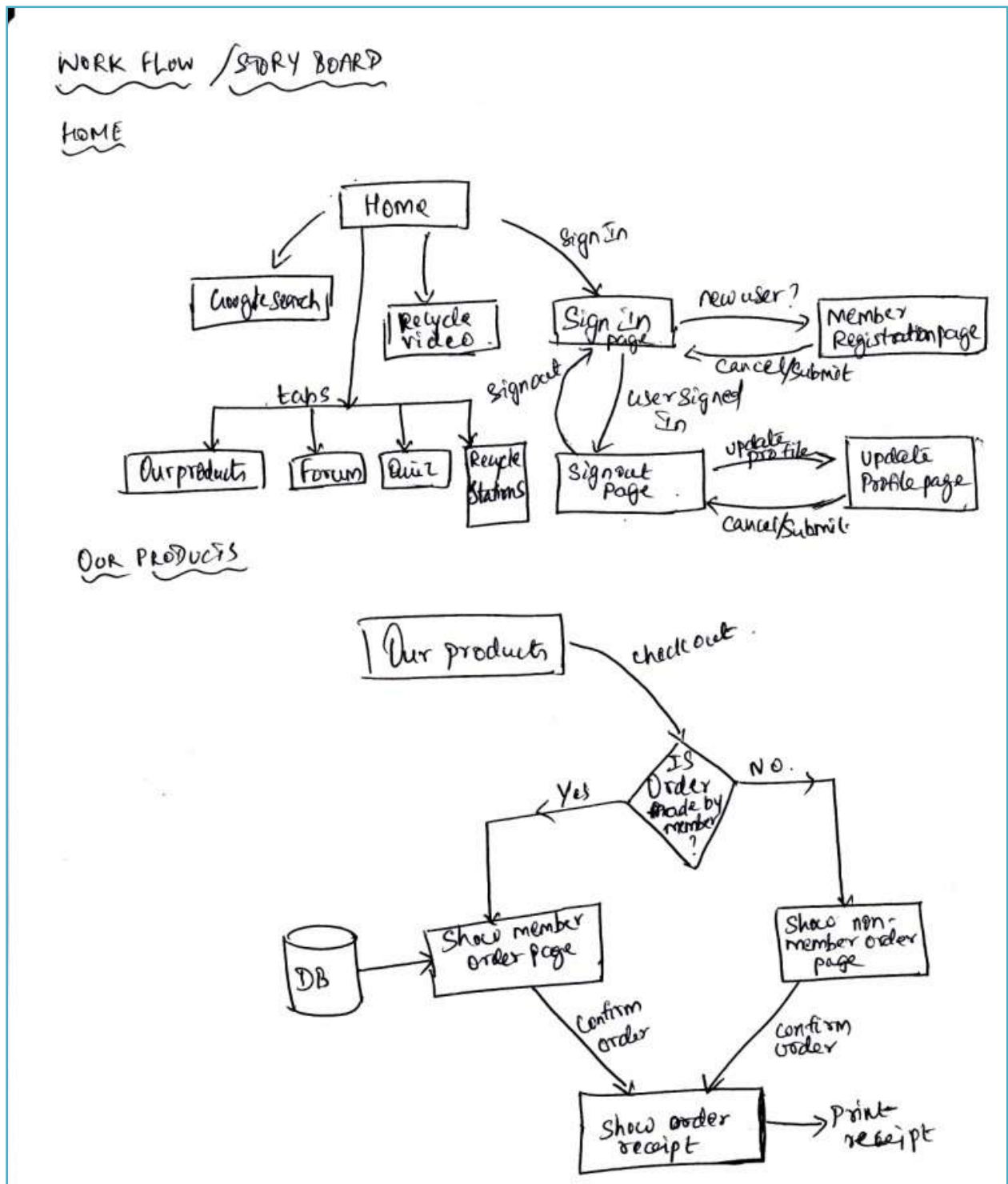
* Tabs loaded with recycling station map.

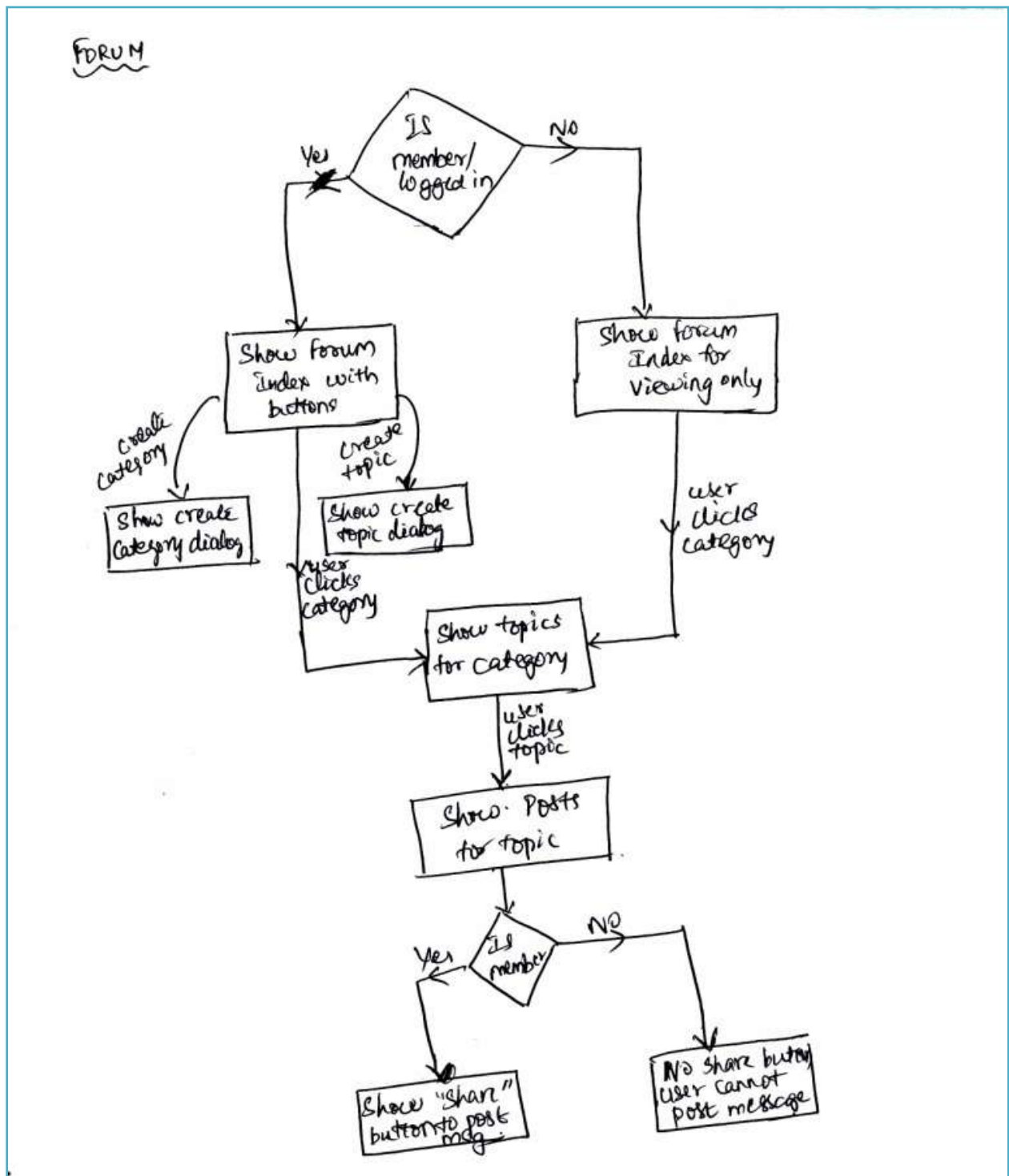
* Show small map in page, when map is clicked, show larger map (thumbnail).

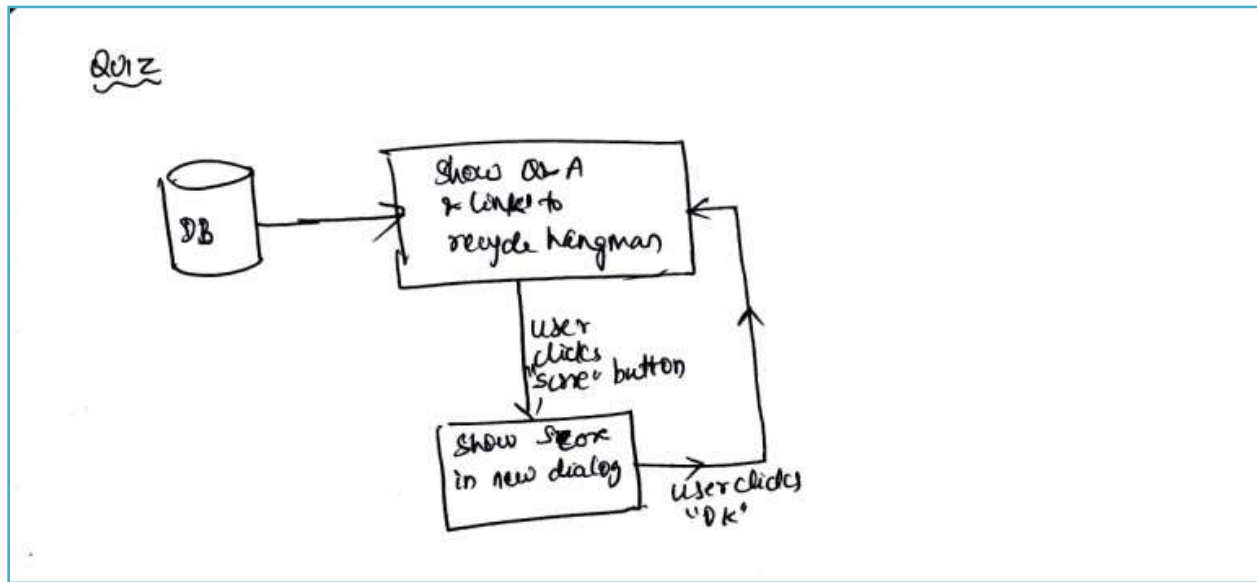
Map of
recycling
station
(campus map)
(edited using gimp).

click on map to show enlarged view
List of recycling stations
1. —
2. —
3. —
4. —
if you need more stations — —
— — <provide email>.

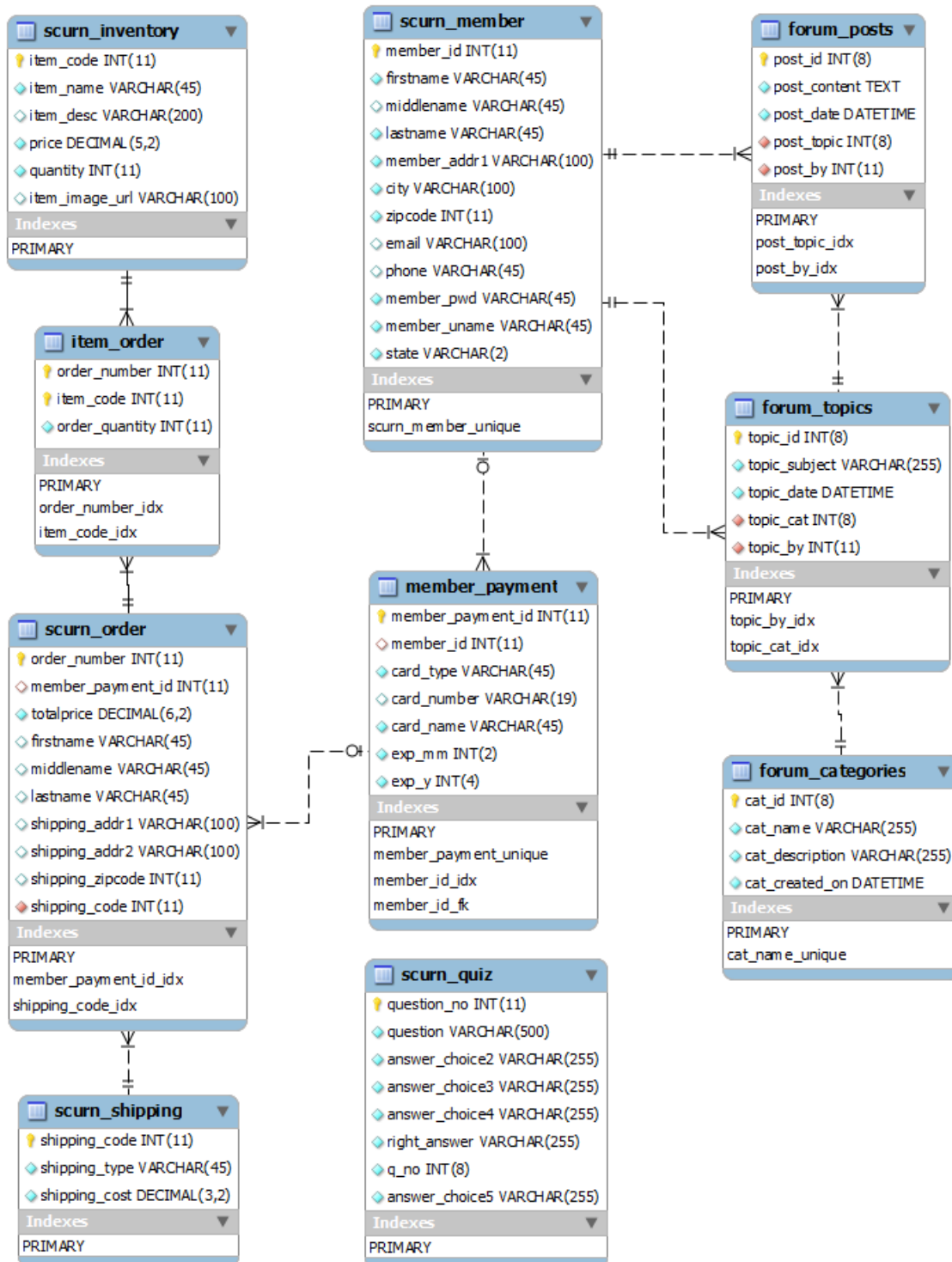
5 SCURN StoryBoards







6 SCURN Database Model



7 Experiences

7.1 Team

- Got introduced to JQuery and JQuery UI javascript libraries and enjoyed using the simple DOM traversal and css manipulation functions provided by them.
- Explored how to use AJAX with JQuery tabs. This was a challenging task and the team was excited to see this at work on the SCURN web site.
- Explored object oriented programming in PHP by designing a common DBUtil class.

7.2 Individual Experiences

- Preeti Thorat
 - Refreshed MYSQL and database concepts.
 - The team adopted a SDLC model for the project - requirements, coding, integration and testing. So I was able to get good exposure to that as well.
- Brinda Sivalingam
 - One key learning was that if the <input> element has disabled set to true, the value was not being sent on post calls. The solution was to make the element as 'readonly'.
- Poornima Ganesan
 - With JQuery, it was interesting to observe and learn some of the cross-browser compatibility.

8 Limitations

- The recycling video on home page is not local to the SCURN web site and hence an Internet connection is required to play the video from You Tube.
- SCURN supports Firefox and Chrome.
- The pages are best viewed in resolution 1366x768 px.