

## FOR DATABASE

### Planning v1

- Tabulate the possible “task to complete” and their ECD
- Design Database – which includes:
  - o Tables and their purposes
  - o FieldNames and their DataTypes
  - o Assign Primary Keys to fields and other related attributes (FieldLength, AI, Unsigned - ZeroFill)
- Show diagram of table relationships
- Assign Privileges to Possible User Groups
- Formulate initial (proposed) queries

### Planning v2

- Started implementing the (proposed) DB including PHP forms
- Removed ‘InStock’ Field from Toys Table (avoid redundancy). Retain ‘Status’ field from Loaned Table instead
  - o Removed Toys.InStock = \$InStock from ‘Book In Toys’ query and ‘Book Out Toys’ query
- Added a ‘Gender (ENUM Y,N)’ field to Members table
  - o Added \$Gender variable to ‘Update Customer Details’ query and to ‘Sign-up for Membership’ query
- Removed ‘Overdue’ Field from Loaned Table (irrelevant field).
  - o Removed Loaned.Overdue from ‘Display Overdue’ query and Loaned.Overdue = Yes from ‘Update (Overdue) Status’ query
- Removed Loaned.Status = ‘\$Status’ from ‘Update (Overdue) Status’ query for efficiency
  - o Added Loaned.Status = ‘OVERDUE’ (or ‘IN’) to ‘Update (Overdue) Status’ query

### Planning v3

- Added SELECT privilege on Loaned table to ‘Members’ user group
- Added Loaned.Return = NOW() to ‘Update Status (of Overdue Books)’
- Updated the ‘Display (All) Toys for Members’ query to: (Because my db cross-checks the status from Loaned Table – the loan entries, If ever there are duplicate toys entry, it will display the latest toy status – the one with the latest LoanID)
  - o SELECT MAX(Loaned.LoanID), Toys.ToyID, Toys.Toy, Toys.Brand, Toys.Dimensions, Toys.Category, Toys.Age, Toys.Price, Toys.Gender, MIN(Loaned.Due), MIN(Loaned.Status) FROM Toys, Loaned WHERE Toys.ToyID = Loaned.ToyID GROUP BY Toys.ToyID;
- Added ‘0.00’ (for Credit), ‘0000-00-00’ (for Paid date) to ‘Sign-up for Membership’ query. I forgot to add these. That’s why my code did not work the first time I test it.
- Added ToyID, Brand, Dimension search capabilities to search function

### Planning v4

- Finished implementing the (proposed) DB including the forms
  - o Decided NOT TO MAKE a form for ‘Add New Toys’ and ‘Update Customer Details (for Toy Manager) – Credit and Paid date’. The Brief allows these operations to be done through PHPMyAdmin Interface
- Added a Testing Table
- Added ‘Justifications’ to table field datatypes
- Updated ‘Price’ field in Toys table AND ‘Credit’ field in Members table – from Decimal (19,2) to Decimal (5,2).
  - o Because I know the range of toy prices from the toy library which is from 50c to \$1 and the possible member credits which is \$10 or \$20. I did this instead of following the MONEY datatype equivalent of Decimal (19,4). Decimal (max digits, max decimals) = Decimal (5,2).
- Updated fieldname of ‘Return’ to ‘ReturnDay’ from Loaned Table. MySQL. ‘Return’ is a stored MySQL syntax statement. MySQL recognises ‘Return’ as a command instead of a fieldname
  - o Updated all queries containing ‘Return’ field to ‘ReturnDay’
- Added If Status = ‘IN’, Loaned.ReturnDay = NOW() to ‘Update (Overdue) Status’ query

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- Added **NULL** syntax to 'Sign-up for Membership' query like so: **(in place of the CustomerID)**
  - o INSERT INTO Members VALUES (**NULL**, '\$FName', '\$LName', '\$Gender', '\$EMail', '\$HouseNo', '\$Street', '\$Suburb', '\$City', '\$Telephone', '\$Mobile', '0.00', '0000-00-00', '\$Password');
- Merged 'Book In Toys' query like so: **(for efficiency, 1 query instead of 2)**
  - o UPDATE Loaned SET ReturnDay = NOW(), Status = '\$Status'
- Added **NULL** syntax to 'Book Out Toys' query like so: **(in place of the LoanID)**
  - o INSERT INTO Loaned VALUES (**NULL**, '\$ToyID', '\$CustomerID', '\$Due', '\$Status');
- Added '0000-00-00 00:00:00' **(for ReturnDay)** and '\$OutDate' to the 'Book Out Toys' query:
  - o INSERT INTO Loaned VALUES (NULL, '\$ToyID', '\$CustomerID', '\$Due', '0000-00-00 00:00:00', '\$Status', '\$OutDate');

#### Planning v5

- Added an 'Image' field to Toys table. This stores the filename of the thumbnail images of the toys.
  - o Added Toys.Image to 'Update (Overdue) Status' query
- Updated Testing Table
  - o Added columns: 'Who will test?' and 'When to Test?'

#### Planning v6

- Updated 'Display Overdue Toys' query like so: **(to avoid duplicate displays and eliminate toy loans that have been returned already)**
  - o SELECT Loaned.LoanID, Toys.Toy, Toys.Image, Members.FName, Members.LName, Members.Email, Members.Telephone, Members.Mobile, Loaned.Due, Loaned.Status FROM Toys, Loaned, Members WHERE Loaned.Due < CURRENT\_DATE() AND Toys.ToyID = Loaned.ToyID AND Members.CustomerID = Loaned.CustomerID ; **AND (Loaned.Status = 'OUT' OR Loaned.Status = 'OVERDUE');**
- Added a 'Display (ALL) Loans' query:
  - o SELECT Loaned.LoanID, Toys.Toy, Members.FName, Members.LName, Members.Email, Members.Telephone, Members.Mobile, Loaned.Due, Loaned.ReturnDay, Loaned.Status FROM Toys, Loaned, Members WHERE Toys.ToyID = Loaned.ToyID AND Members.CustomerID = Loaned.CustomerID;
- Added a 'Display (ALL) Members' query:
  - o SELECT \* FROM `Members`;
- Added 'Elements to Test' in testing table

#### Planning v7

- Updated "task to complete" table
  - o Completed Proposed Testing Table
  - o Actual Testing
- Added 'Login' field to Members table. This stores the customer's username. I originally planned to use their email as their username but I've found out in later research that MySQL users are allowed only up to 16 characters of username
- Updated Password field length limit of 16 characters (originally 32). MySQL only allows its users up to 16 characters of password as well
- Updated 'Book Out Toys' query: **(I replaced '\$OutDate' with 'NOW()' which makes the OutDate insertion automatic. Decreases amount of user input and validation)**
  - o INSERT INTO Loaned VALUES (NULL, '\$ToyID', '\$CustomerID', '\$Due', '0000-00-00 00:00:00', '\$Status', **NOW()**);
- Updated Testing Table

#### Planning v8

- Updated 'Sign-up for Membership' query: **(actually creates a login in MySQL/PHPMyAdmin and then grants members privileges)**
  - o CREATE USER '\$Login'@'localhost';
  - o GRANT USAGE ON \*.\* TO '\$Login'@'localhost';
  - o GRANT SELECT, UPDATE ON `toylib`.`members` TO '\$Login'@'localhost';
  - o GRANT SELECT ON `toylib`.`toys` TO '\$Login'@'localhost';
  - o GRANT SELECT (`LoanID`, `ToyID`, `Due`, `Status`) ON `toylib`.`loaned` TO '\$Login'@'localhost';
  - o SET PASSWORD FOR '\$Login'@'localhost' = PASSWORD('\$Password');";

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- Updated 'Update Customer Details (for members)' query:
  - o SET PASSWORD FOR '\$Login'@'localhost' = PASSWORD('\$Password');";
- Updated 'Search Results' query: (for efficiency. Instead of going to another PHP page to view toy status, why not just add another column to search results table that displays toy status)
  - o SELECT MAX(Loaned.LoanID), Toys.ToyID, Toys.Toy, Toys.Brand, Toys.Dimensions, Toys.Category, Toys.Age, Toys.Price, Toys.Gender, MIN(Loaned.Due), MIN(Loaned.Status), Toys.Image FROM Toys, Loaned WHERE (Toys.ToyID LIKE'%"\$.search.'"%' OR Toys.Toy LIKE'%"\$.search.'"%' OR Toys.Category LIKE '%"\$.search.'"%' OR Toys.Brand LIKE'%"\$.search.'"%') AND Toys.ToyID = Loaned.ToyID GROUP BY Toys.ToyID ORDER BY Toy;
- Removed ViewStatus.php because 'Search Results' query works
- Added ORDER BY command to all display queries
  - o ORDER BY LName
    - Display Overdue Toys
    - Display All Loans
    - Display All Members
  - o ORDER BY Toy
    - Display All Toys
    - Search Results
- Transferred the 'Status' field from Loaned table to Toys and updated relevant PHP pages: (for query execution efficiency)
  - o AddLoans.php
  - o ToyStatus.php
  - o Toys.php
  - o Results.php
  - o Overdue.php
  - o InChange.php
  - o OverChange.php
  - o Loaned.php
- Added a "global" class and .global CSS element rule to all tables (eliminate conflict with jQueryUI.css)
- Updated Testing Table

#### NOTES:

- Desk checking is constantly applied in the creation of the PHP pages
- Form Validation is also applied even though it is not indicated in this document

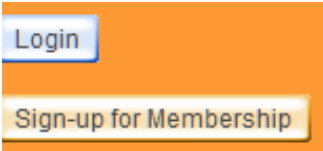
## FOR WEBSITE



Toy ID	Toy
TRIDO296	Dora With Handle Trike
BJT012	Figure of Eight Train Set - 43 pieces

Added sorting capability to tables (jQuery)

- Can sort fields ascending or descending (A-Z, 0 – 9 and vice versas)
- Can search fields within table as well
  - o Also displays number of search results



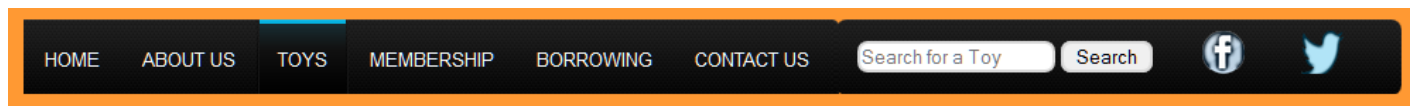
Added custom buttons for Login and Sign-up pages

- Used pre-made custom images for buttons
  - Used advanced CSS technique: background position – to specify ONLY portion of image to be shown
- Altered display to block and added padding on buttons
  - Used advanced HTML: span
  - Nested <a> tag inside <img> tag on button with class “squareButton”, in which class “buttonWrapper” is nested



Integrated header elements into <header> tag including:

- Login button (dynamic) and Sign-up button (dynamic)
  - o Changes to “Welcome \_\_\_\_\_ Login →EditDetails Signup→Logout” when user logs-in
  - o Use float: right on two buttons
- Code to give guest users an automatic temporary login/identity
- TL Logo and Site Title
  - o Padding on logo = 10 15 0 0px
  - o Use float: left on logo and title



Added Menu Bar (progressive)

- Integrated Menu bar from Apycom jQuery Menus using <nav>(s) and <div>s
  - o Added menu.css to HTML/PHP <head>. Advanced CSS techniques:
    - #Menu z-index: 1;
    - #Menu li position: relative, display: block
    - #Menu li div visibility: hidden, z-index: 11, background-position
    - #Menu a position: relative, z-index: 10, display: block, line-height: 50px, white-space: nowrap
    - #Menu span font: normal 13px Helvetica,Arial,FreeSans,sans-serif (*use of shorthand property when possible*)
    - #Menu ul ul div margin: -62px 0 0 165px !important (so menu.css overrides style.css rendering when JS enabled)

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- Added menu.js to HTML/PHP <head>
  - Includes Lavalamp Java Script – link with class “active” follows mouse pointer on menu-hover
- Integrated search bar and social networking buttons (FB and Twitter)
  - Revised original css from source to suit the addition of search bar and social networking buttons
- Has code to limit user access to exclusive area page and toy reservation page



Added jQuery dependent slideshow with navigation (play/pause) controls

- Integrated Slide JS from slidejs.com
  - Added slide.css to HTML/PHP <head>. Advanced CSS techniques:
    - Background = grey gradient with filter “DXImageTransform.Microsoft.gradient” (for IE 9), z-index: 0, position: relative, top: 35px (*use of shorthand property when possible*)
    - Used text-indent property to indent nav controls so it lines up with image
  - Added slide.js to HTML/PHP <head>

## Welcome to the Pukerua Bay Toy Library

Playing is vital for your child's development. We have a wide range of toys, bikes, trucks, railway sets, and more.

Membership costs \$20 a year. We provide a safe and fun environment for your child to play and learn.

### Why join a Toy Library?

- Save money & borrow
- Borrow large & expensive toys
- Exchange toys when your child is bored with them
- Reduce the need to store lots of unused toys
- Assist your child's development by providing all the tools for play

Hi Ronni

That will be fine, hope your project goes well,

Annie Whiterod  
Karori Toy Library

website? Would you be willing to give me permission to use a considerable amount of text from your site? The website will not actually be going "live" on the internet, it will just be used in the school environment.

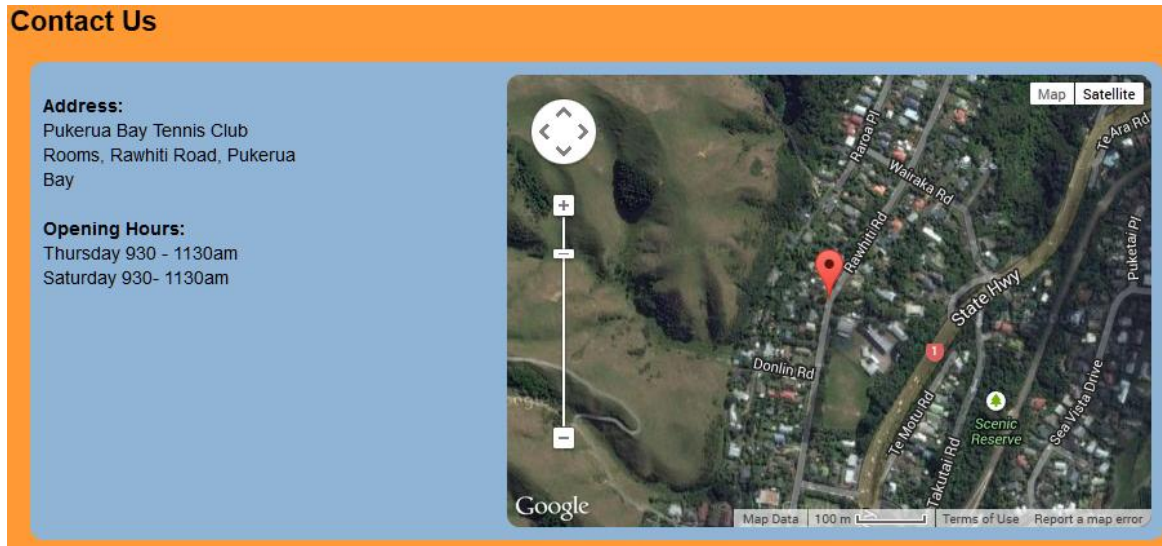
Added text to website using text from Karori Toy Library website. Asked for permission to use text via email for ethical purposes

Copyright © 2013 [Pukerua Bay Toy Library Incorporated](#)  
Copyright © 2013 [Toy Library Federation of New Zealand](#)  
Copyright © 2007 - Menu Styles [Apycom jQuery Menus](#)  
Copyright © 2013 - SlideJS [Nathan Searles](#)

Added copyright notices on footer

- Integrated footer elements into <footer> tag
- Styled footer link font-color #06b3e1 and #fff on hover

## Contact Us



Added a Google Map of toy library location on contact us page using Google API (advanced techniques)

- Acquired a Google API key that allows 10 000 MAX map views per day. This includes:
  - o Google Map API v2/v3
  - o Google Maps Coordinate API
  - o Google Maps Engine API
  - o Google Maps Tracks API (optional)
- Set following elements through a function:
  - o zoom to 16
  - o ZoomControl to LARGE
  - o Center to LatLng (-41.035021, 174.884786) – Rawhiti Road
  - o Maptype to HYBRID
  - o Marker to map centre labelled 'Rawhiti Road' on marker hover
- div#loc background: #90b4d6, border: 10px thick #000 (*use of shorthand property*)
- div#map\_canvas border-radius: 10px, float: right

## Request for Toy Reservation

From:	<input type="text" value="qwerty@testy.com"/> --- Rich Eminem
To:	<input type="text" value="pukeruabay.toylib@gmail.com"/>
Subject:	<input type="text" value="Toy Reservation for CustomerID 000007"/>
Message:	<div>Enter the ToyID, time/day of pickup and the intended day of toy return</div> <div></div>
	<input type="button" value="Send"/> <input type="button" value="Clear"/>

Intentional misuse of this form is prohibited by law. We can track your activity on this website

Added a reservation page

- Pre-filled with member's email and customer's ID No. (on subject)
- Includes an extension 'PHPMailer' that can email using POP3/IMAP
  - o Uses custom-made gMail via POP3 (SMTP→TLS)
    - Enabled 'extension=php\_openssl.dll' (edited php.ini file)

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- Email sent as plain HTML
- Customised reply-to address (dynamic)
- Customised email subject (dynamic)
- Added a back button when there is an error (e.g. when message is blank, output = Message cannot be empty)  
onclick="history.go(-1);".

```
if (!empty($_POST)) {
    require_once('recaptchalib.php');
    $privatekey = "6Le6FuMSAAAAAP5U6gyFAIPy2dSXDDzLLSU9uo98";
    $resp = recaptcha_check_answer ($privatekey,
                                    $_SERVER["REMOTE_ADDR"],
                                    $_POST["recaptcha_challenge_field"],
                                    $_POST["recaptcha_response_field"]);

    if (!$resp->is_valid()) {
        // What happens when the CAPTCHA was entered incorrectly
        echo "The reCAPTCHA wasn't entered correctly." . "(reCAPTCHA said: " . $resp->error . ")";
    } else {
        $_SESSION['Token'] = md5 (rand());
        echo '<p>Your identity has been verified</p>';
        echo '<a href="/toylib/reservation.php?". SID .'">Go to Email Form</a>';
        include 'base/copyright.php';
        exit;
    }
}
```

Added reCaptcha challenge before someone can reserve a toy to prevent (or to at least minimise) spam emails on the email system



Updated website and made an 'exclusive area' page to control access permissions for ToyManager, Volunteers and Members (authentication code included)

## IMPROVEMENTS:

- Updated menu bar – made it persistent
  - Always stay on top-centre of web browser frame
- Redirects to a Microsoft page offering IE8 download if browser is IE 6 or lower
  - `<!--[if lte IE 6]>`  
`<meta http-equiv="refresh" content="0; URL=http://windows.microsoft.com/en-nz/windows/upgrade-your-browser">`  
`<![endif]-->`
- Added a web thumbnail (favicon)
  - `<link rel="shortcut icon" href="favicon.ico"/>`
- Added meta-viewport on HTML <head> and @media on CSS to compensate (NOT TO CATER) for mobile devices
  - `<meta name="viewport" content="width=device-width, initial-scale=1"/>`
  - @media tags only changes the font style and sizes depending on mobile device

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- Added a <noscript> notice on top of page when JS is disabled
  - o **Page still works even with JS disabled (AKA progressive enhancement)**
  - o “This page works best with Java Script present”
- Added HTML5 audio (multi-source) on home page and HTML5 video (multi-source) on borrowing page

NOTES:

- Used <?php include “?”> for <header> and <footer> (economy of time)
- Comments present in code on HTML, CSS, PHP and JS (jQuery) – internal documentation
- Removed ‘Indexes’ from Options directive in httpd.conf file (restricts view of users to image, extension, audio, base, video, css, js and extension files)
  - o \*\*\*Restricting views is not to be confused with restricting access. Restricting views mean that it is not possible for anyone to acquire a full file list of a directory