

ASSIGNMENT TWO

Semester 2, 2020

ITWD6.408 Advanced Internet & Web

Weighting:	50% of final grade
Marks:	100
Due Date:	Week 14: Friday 6 th November 2020
Time:	17:00 by EIT Online

The School of Computing has a policy of no late assignments. However, an assignment handed in up to 24 hours late will be marked. A deduction of 20% of the total marks available will be made. Any assignments received more than 24 hours late will not be marked but can be used as evidence of completing terms.

INSTRUCTIONS

Students are to attempt all tasks.

All work submitted must be original and entirely your own work, except where you use ideas, quotations, tables, diagrams, code or any other material from other writers. In such cases you must acknowledge the source using the APA referencing style.

Unless you have prior approval from your lecturer, no part of the work submitted may be used as part of any assessed work for any other academic course.

You must upload a zip archive of your web site (as **LastnameFirstname_assignment_2.zip**) to the appropriate drop box on EIT Online (<http://eitonline.eit.ac.nz>) containing all the materials associated with the site.

Create a folder on your student (H:) drive called **ITWD6408_Assignment2** and backup your web site.

Partial marking may occur during the course.

A completed assignment must be uploaded by 17:00 on the due date.

OVERVIEW

You have set up a new web development company, and to demonstrate your JavaScript skills you have chosen to create a prototype **Phone Fix Booking System**.

You are to create **two** tabbed html pages, as follows:

- **index.html** displays an itinerary form similar to the one shown in **Error! Reference source not found..**
- **advanced.html** contains the statement of authenticity and a description and/or implementation of any **advanced JavaScript** you have included.

Phone Fix Booking System

Home Extension

Customer Details

Customer Type *
☐ Consumer
☐ Business

Title: * Mr

First Name: *

Last Name: *

Street: *

Suburb: *

City: *

Post Code: *

Phone Number: *

Email: *

Repair Details

Purchase Date: *

Repair Date: *

Under Warranty
Warranty: ☐

IMEI Number: *

Make: * Apple

Model Number: *

Fault Category: * screen

Description: *

Courtesy Phone

Item Type: iPhone 7

Add Remove

Item	Cost
iPhone	\$275
Charger	\$30

Cost

Bond: *

Service Fee: *

Total: *

GST: *

Total(+GST): *

Reset Submit FAQ?

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Figure 1: index.html

VALIDATION

All validation must be done in JavaScript. **NO HTML5 validation.**

- **All fields** marked with an “*” are mandatory.
- **Title** is a select box with the following options:
Mr Mrs Ms Miss Dr
- **First Name & Last Name** only allows for alphabetical characters, spaces and the – symbol.
- **Post code** should be a length of 4 numbers.
- **Phone Number** only allows for numbers, spaces and (), -, + symbols.
- **Email** must check for @ and full stop (.) after the @. It should also have a minimum length of 5 characters.
- **Dates** (purchase date and repair date) must be valid dates (e.g. 33/14/2019 is not a real date). Dates **should not** be able to be set in to the future. The repair date must be later than the purchase date.
- **Warranty** should be disabled if purchase date is greater than 24 months.
- **IMEI number** must only be numbers with a length of 15.
- **Make** is a select box with the following options:
Apple LG Motorola Nokia Samsung Sony Other
- Fault Category is a select box with the following options:
Battery Charging Screen SD-storage Software Other

COURTESY PHONE

This section allow users to select a courtesy phone and/or a charger to [add](#) to the table. The section also allows users [remove](#) their current choice or change to another phone. Make sure that users are allowed to add **only 1 phone** and/or **only one charger** to the table.

Item Type (a select box):

- “iPhones” have a cost of \$275.
- “Other phones” have a cost of \$100.
- Chargers have a cost of \$30.
- Item should be added to the table. The total should be calculated as the “**bond**” in the Cost section.
- If the “customer type” is “**business**” then no bond should be charged.

COST

- All inputs should be disabled from user input (amounts should be calculated using JavaScript).
- All amounts should be in \$ format (\$200.00).
- **Bond**: is the cost for a courtesy phone (and charger) if the customer is a “**consumer**” type.
- **Service Fee**: is \$85 if the customer’s phone is *out of warranty*.
- **Total**: The total of cost excluding GST.
- **GST**: 15% of the total.
- **Total (+GST)**: The total including GST.

FORM BUTTONS

- **Reset**: Should reset the form (note any default values should be recalculated).
- **Submit**:
 - Should validate the form data and display any errors for the user to correct.
 - If all fields have been validated then a “[Repair Booking Job Sheet](#)” should be dynamically generated via JavaScript (This should open in a new window).
 - Store this invoice into the [IndexdDB database](#).
- **FAQs**:
 - Should open a new window of frequently asked questions. This information is to assist the employee with common customer questions. Example:
 - What is the bond for?
 - Why do I have to pay a service fee?
 - Do I need a charger with my courtesy phone?
 - Why isn’t my phone under warranty?
 - ...
 - The information for this page should be read from a [JSON/XML file](#) (you could either create one by yourself or use the existing online one).

REPAIR BOOKING JOB SHEET

The “[repair booking job sheet](#)” should be styled in a way that would be suitable for printing (use colours suitable for printing in black and white). The job sheet should include all submitted form information and business contact information (business card, phone, email, and address etc.).

Additional requirements for the job sheet:

- The “**job number**” should be unique to each form.
- The “**invoice date**” should also include in the time of invoice in **24-hour format**.
- Under the “repair details”: “**repair date/time**” should include the time in **12-hour format** with an appropriate AM or PM suffix.
- Under “warranty” should include either a **tick** or **cross** symbol.

Advanced JS

You are to explore and implement advanced JavaScript techniques (at least 5). These should be relevant to the Phone Fix Repair theme and can be added to the first page, the extension page or on an additional page.

Include the following statement at the top of the **“Advanced JS” (Extension)** page:

Statement of authenticity

I confirm that:

- This is an original assessment and is entirely my own work.
- It contains no material previously published or written by another person or myself except where due acknowledgement is made in the text.
- No material which to a substantial extent, has been submitted for any other academic course, is included without acknowledgement.

Then describe any advanced JavaScript features you have implemented.

Suggestions of advanced JS features:

1. Implement **“search” feature** using JS on FAQs page;
2. Use **“address search & auto completion” API** to auto complete the address fields;
3. Improve the UX: **remember user preferences** (background color, image, ...) by using cookie/local storages;
4. Improve the UX: **use modal form or pop-up form** to show the “repair booking job sheet” (invoice);
5. Use **Geolocation and Google Map API** to show the current customer service and the distance from them to the nearest shop.
6. Use **SVGMap or Imagemap** to display all shops in different regions (one in Auckland, one in Hawke’s Bay, one in Christchurch) on interactive NZ map;
7. Use **drag-and-drop API** for the “courtesy phone” selection;
8. Use **WebGL or any JS libraries (PS.JS, Three.JS)** to display all available 3D courtesy phones;
9. Build a **bot-chat** (in case users need help) to answer user’s question: training the AI with the FAQs.
10. Use Ajax technique to make the phone fix repair website become a **Single Page Application**: Only one webpage for the whole application.
11. Use service workers, client-side storage, working offline, push, and notification to make the phone fix repair website become a **Progressive Web App**.
12. Use **Server-Sent-Event (SSE) and “Promise” object** in JS for asynchronous operation to improve UX;
13. Use **Angular framework** to create the “courtesy phone” & “cost” section;
14. Use **Node, Vue or React framework** the “courtesy phone” & “cost” section;
15. Use **“file upload” feature** allows users to upload the image of the repair phones & display the image on the page for viewing as well.

DOCUMENTATION & FUNCTIONALITY

- Marks will be awarded for documentation (within the code, e.g. consistent variable naming), and for functionality, elegance and efficiency of code, and appropriate Web page design.
- You should divide the screen into sections and utilise **CSS grid** and **Flexbox techniques** so they resize for smaller devices as shown below.
- You must use **JavaScript** for all client side scripting. **No HTML5 validation**.
- Include a **review.doc file** where you explain any issues/problems you faced up:
 - Issues you have not resolved.
 - Issues you have overcome. How?
 - Things you would like to explain.
 - Explain what you could have done differently to improve your result or I could have done differently to assist in improving your result.
 - **Reflect on things you learnt, think could be improved in the course and things you found helpful.**

MARKING SCHEDULE

Validation	<ul style="list-style-type: none"> • Mandatory fields • First & Last Name • Post Code • Phone Number • Email • Select Boxes • Dates • Warranty • IMEI Number 	10
Courtesy Phone	<ul style="list-style-type: none"> • “Add” button allows to inserts item into table if value is selected. • “Remove” button allows to remove a selected item form the table. • Price correct for Item type. • Price adjusted for “Business customer” • Items added updates automatically the “bond” field in the “cost” section. 	10
Cost	<ul style="list-style-type: none"> • Input boxes disabled • Default values used • Correct format • “Bond” total calculated and updated automatically. • “Service fee” calculated and updated automatically. • “Total” calculated and updated automatcally. • “GST” (15%) calculated and updated automatcally. • “Total (+GST)” calculated and updated automatcally. 	10
Form Buttons	<ul style="list-style-type: none"> • Reset: resets form and default values. • Submit: Validates the form and indicates the fields to correct. If validated, opens the “Repair Booking Job Sheet” window & store the invoice into IndexedDB. • FAQs: Opens a new window with FAQs imported from an JSON/XML file 	10
Repair Booking Job Sheet	<ul style="list-style-type: none"> • Styled as printable invoice/repair sheet document • Includes all form fields with sensible formatting • Meets the additional job sheet requirements 	10
Advanced JS (at least 5 feature)	<ul style="list-style-type: none"> • JavaScript extensions are relevant to the Phone Fix Booking System theme • Include descriptions for each feature. • Include a working codes for each feature (integrate into the web app); • 6 marks for each working feature. 	30
Documentation & Functionality	<ul style="list-style-type: none"> • Code consistency • Code comments • Clean Code • Mobile first responsive design utilizing CSS grid and flexbox • All validation uses JavaScript • Review.doc file included with discussion of issues faced, improvements needed, how the course could be improved. 	20
Total		100

Desktop

Home

Extension

Phone Fix Booking System

Customer Details

Customer Type *
☐ Consumer
☐ Business

Title: *
Mr

First Name: *

Last Name: *

Street: *

Suburb:

City: *

Post Code:

Phone Number: *

Email: *

Repair Details

Purchase Date: *

Repair Date: *

Under Warranty
Warranty: ☐

IMEI Number: *

Make: *
Apple

Model Number:

Fault Category: *
screen

Description: *

Courtesy Phone

Item Type: iPhone 7

AddRemove

Item	Cost
iPhone	\$275
Charger	\$30

Cost

Bond:

Service Fee:

Total:

GST:

Total(+GST):

Reset

Submit

FAQ?

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Mobile

Phone Fix Booking System

Home
Extension

Customer Details

Customer Type *

Consumer ☐
Business ☐

Title: *
Mr

First Name: *

Last Name: *

Street: *

Suburb: *

City: *

Post Code: *

Phone Number: *

Email: *

Repair Details

Purchase Date: *

Repair Date: *

Under Warranty
Warranty: ☐

IMEI Number: *

Make: *
Apple

Model Number: *

Fault Category: *
screen

Description: *

Courtesy Phone

Item Type:
iPhone 7

Add

Item	Cost
iPhone	\$275
Charger	\$30

Cost

Bond:

Service Fee:

Total:

GST:

Total(+GST):

Reset

Submit

FAQ?

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Tablet (iPad)

Phone Fix Booking System

Home
Extension

Customer Details

Customer Type *

Consumer ☐
Business ☐

Title: *
Mr

First Name: *

Last Name: *

Street: *

Suburb: *

City: *

Post Code: *

Phone Number: *

Email: *

Repair Details

Purchase Date: *

Repair Date: *

Under Warranty
Warranty: ☐

IMEI Number: *

Make: *
Apple

Model Number: *

Fault Category: *
screen

Description: *

Courtesy Phone

Item Type:
iPhone 7

Add

Item	Cost
iPhone	\$275
Charger	\$30

Cost

Bond:

Service Fee:

Total:

GST:

Total(+GST):

Reset

Submit

FAQ?

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FAQs page

file:///H:/2018/twd6400/assignment_dev/assignment_2/faq.html

Phone Fix Booking FAQs

Why do I have to pay a service fee?

Lorem ipsum dolor sit amet consectetur adipisicing elit. Accusamus sapiente provident perferendis quibusdam dolorem, eius repellat repudiandae, esse voluptate repellendus animi omnis ipsam amet eaque temporibus, laudantium minima ullam odio.

What is the bond for?

Lorem ipsum dolor sit amet consectetur adipisicing elit. Neque aliquam voluptatibus rerum consequatur laborum nisi nostrum quisquam sed architecto, excepturi unde. Enim ut cupiditate officia esse ratione ullam ipsum incidunt?

Do I need a charger with my courtesy phone?

Lorem ipsum dolor, sit amet consectetur adipisicing elit. Omnis animi ab consequatur, voluptatem quo dicta iste fugiat eius, doloribus mollitia cupiditate aut tempore rerum nemo vero impedit veniam necessitatibus ea.

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Repair Job Sheet

Repair Booking Sheet x

file:///H:/2018/twd6400/assignment_dev/assignment_2/form_submission.html

Repair Booking

Amount Due
\$350.75

Customer	Repair Job
Mr John Doe 7777 Lucky Road Cathedral, Midgar 1234 021234567 example@email.com	Job Number: 3001 Invoice Date: April 08, 2018 - 14:05 Payment Due: April 13, 2018

Repair Details

Purchase Date: 05/04/2017
Repair Date/Time: 08/04/2018 - 2:05pm
Under Warranty: Yes ✓
IMEI Number: 358475927600065
Device Make: Samsung
Model Number: Note 6
Fault Category: Battery
Description: Battery Exploded

Courtesy Loan Device Details

Item	Cost
iPhone	\$275
Charger	\$30

Totals

Bond:	\$305.00
Service Fee:	\$0.00
Total:	\$305.00
GST:	\$45.75
Total(+GST):	\$350.75

Phone Fix Services 42 Fuxed It Drive Alexander	Contact Us Phone: 06876543
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Advanced JS (Extension)

Some suggestions of advanced JS features:

1. Implement **“search” feature** using JS on FAQs page;
2. Use **“address search & auto completion” API** to auto complete the address fields;
3. Improve the UX: **remember user preferences** (background color, image, ...) by using cookie/local storages;
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Javascript Extension

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Feature 1: GeoLocation

A map could be added to the web page showing the user where store locations are, and by using thier goelocation it would potentially show them optimal routes and an estimate of how long it would take to get to each store.

Click the button to get your location coordinates: [Get Location](#)

Feature 2: Drag and Drop

This is another feature for the courtesy phone section that would let users drag what phone they want into a 'basket' and would replace the current method of using a drop down button click menu.

Drag the phone between the two boxes below:



Feature 3: Web Storage

Finally this example shows how local storage can be used to store data and pass them to another webpage, or in this example back to the user. The data will stay in storage even after closing the window and opening it back up again.

Enter a name to store:

[Store Data](#) [Delete Data](#) [Retrieve Data](#)