

# **ASSIGNMENT TWO**

Semester 2, 2020

ITWD6.408 Advanced Internet & Web		
Weighting:	50% of final grade	
Marks:	100	
Due Date:	Week 14: Friday 6 <sup>th</sup> 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 you 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.

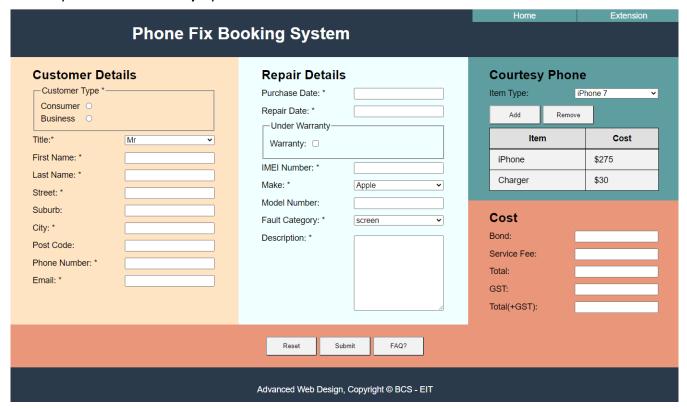


Figure 1: index.html

### **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 <a href="mailto:add">add</a> to the table. The section also allows users <a href="mailto:remove">remove</a> their current choice or change to another phone. Make sure that users are allowed to add <a href="mailto:only one charger">only one charger</a> 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.
  - o 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.

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 FQAs 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** he "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 & FUCTIONALITY**

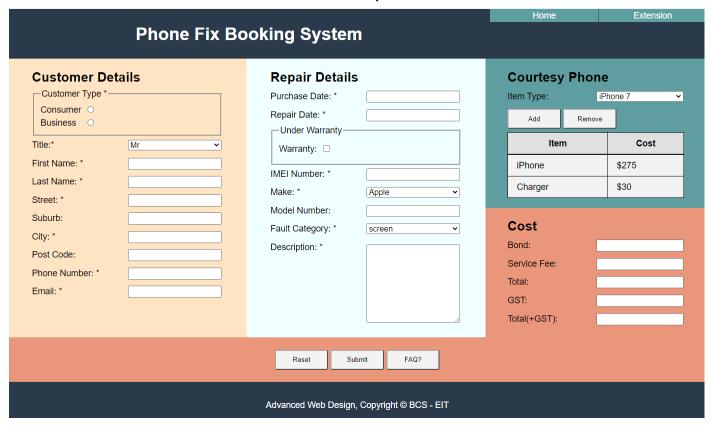
- Marks will be awarded for documentation (within the code, e.g. consistent variable naming), and for functionality, elegance and efficiency of code, and appropriate Web page design.
- You should divide the screen into sections and utilise **CSS grid** and **Flexbox techniques** so they resize for smaller 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:
  - o Issues you have not resolved.
  - o 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	Mandatory fields	10
	First & Last Name	
	Post Code	
	Phone Number	
	• Email	
	Select Boxes	
	• Dates	
	Warranty	
	IMEI Number	
<b>Courtesy Phone</b>	"Add" button allows to inserts item into table if value is selected.	10
-	"Remove" button allows to remove a selected item form the table.	
	Price correct for Item type.	
	Price adjusted for "Business customer"	
	<ul> <li>Items added updates automatically the "bond" field in the "cost"</li> </ul>	
	section.	
Cost	Input boxes disabled	10
	Default values used	
	Correct format	
	"Bond" total calculated and updated automatically.	
	"Service fee" calculated and updated automatically.	
	"Total" calculated and updated automatcally.	
	<ul> <li>"GST" (15%) calculated and updated automatcally.</li> </ul>	
	"Total (+GST)" calculated and updated automatcally.	
Form Buttons	Reset: resets form and default values.	10
	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	
Repair Booking	Styled as printable invoice/repair sheet document	10
Job Sheet	<ul> <li>Includes all form fields with sensible formatting</li> </ul>	
	Meets the additional job sheet requirements	
Advanced JS	JavaScript extensions are relevant to the Phone Fix Booking System	30
(at least 5	theme	
feature)	Include descriptions for each feature.	
-	<ul> <li>Include a working codes for each feature (integrate into the web app);</li> </ul>	
	6 marks for each working feature.	
Documentation	Code consistency	20
& Functionality	Code comments	
•	Clean Code	
	<ul> <li>Mobile first responsive design utilizing CSS grid and flexbox</li> </ul>	
	All validation uses JavaScript	
	Review.doc file included with discussion of issues faced, improvements	
	needed, how the course could be improved.	
Total		100

# Home Page (index.html):

## Desktop



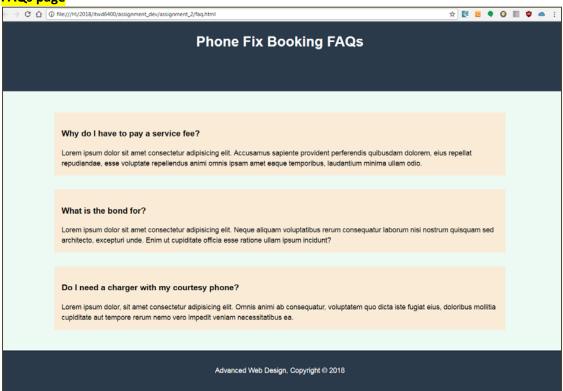
## Mobile

	Phone Fix Booking System		
Home			
Customer Det Customer Type * Consumer O Business O  Title:* Mr First Name: *  Last Name: *  Street: *  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 Pho	ne		
Item Type: iPhone 7	•		
Add			
Item	Cost		
iPhone	\$275		
Charger  Cost Bond: Service Fee: Total:  GST: Total(+GST):	\$30		
Reset			
Submit			
FAQ?			
Advanced Web Design	, Copyright ⊚ 2019		

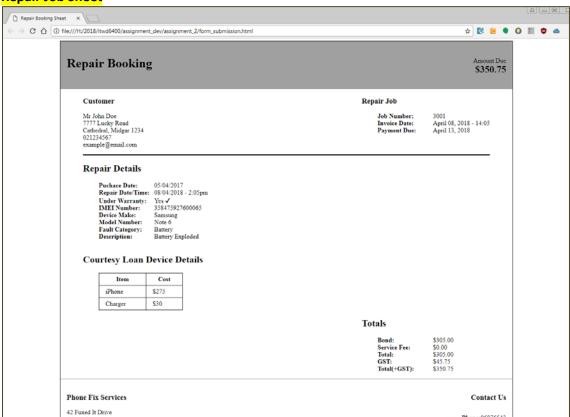
# Tablet (iPad)

	ooking System		
Home	Extension		
Customer Details			
Consumer 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: 12			
IMEI Number, *			
Make: *			
Apple Model Number:	*		
Fault Category: "			
Description *	screen		
Country Phone			
Courtesy Phone			
iPhone 7			
	Add		
Item IPhone	Cost \$275		
Charger	\$30		
Cont			
Cost Bond			
Service Fee:			
Total			
GST.			
Total(+GST):			
	Reset		
-	Submit		
	FAQ?		
Advanced Web De	esign, Copyright © 2019		

### **FAQs** page



### **Repair Job Sheet**



### Advanced JS (Extension)

## Some suggestions of advanced JS features:

- 1. Implement "search" feature using JS on FQAs page;
- 2. Use "address search & auto completion" API to auto complete the address fields;
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- 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.

# Javascript Extension Statement of authenticity 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. 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