

Android App for Tour Guides

Team Members: Salman Khan, Jia Yu Chan,
Matthew Probosutejo, Shourav Das

Clients: Dr. Steve Durbin, Allin Kahrl, Michael Konkel

Problems Addressed

Training new Parkview Campus tour guides takes a lot of time

Remembering all the information accurately is difficult

Occupied labs and the things in them cannot be viewed by tour takers

Going inside each lab takes a lot of time

Goals

Develop an Android App to facilitate tour guides

Client should be able to add/update info

Should show info about labs by scanning QR codes outside them

Should have the ability to email info about any specific lab to a tour taker

Technologies Used

IDEs

Android Studio

PHPStorm

DataGrip

Languages

Java

PHP

SQL

Testing Frameworks

JUnit

PHPUnit

DBMS

PostgreSQL

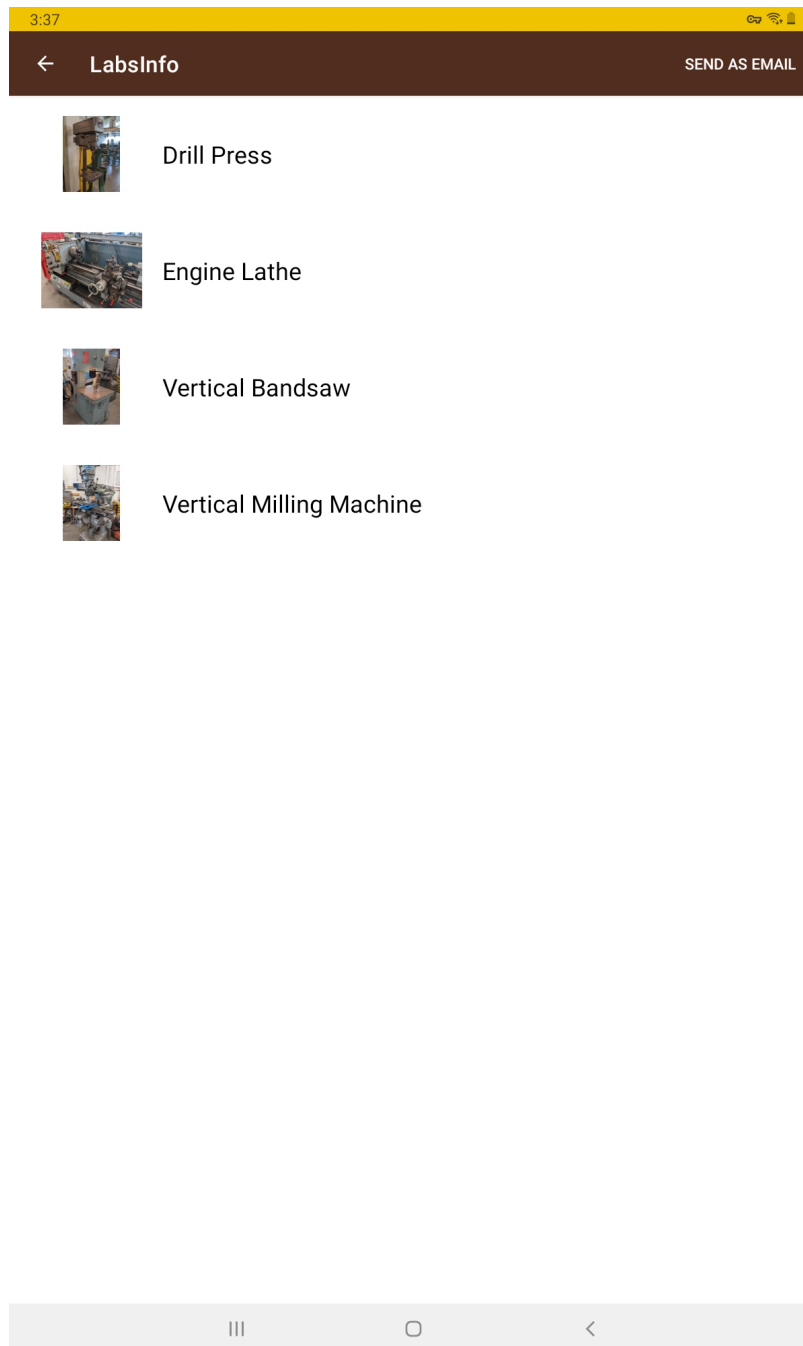
Version Control and Project Management

GitHub



App Pages

QR Code Scanner



App Pages

Titles List

An engine lathe is a type of machinery often used to cut metal. The metal is turned, and the machine uses special cutting tools to create the desired shape.



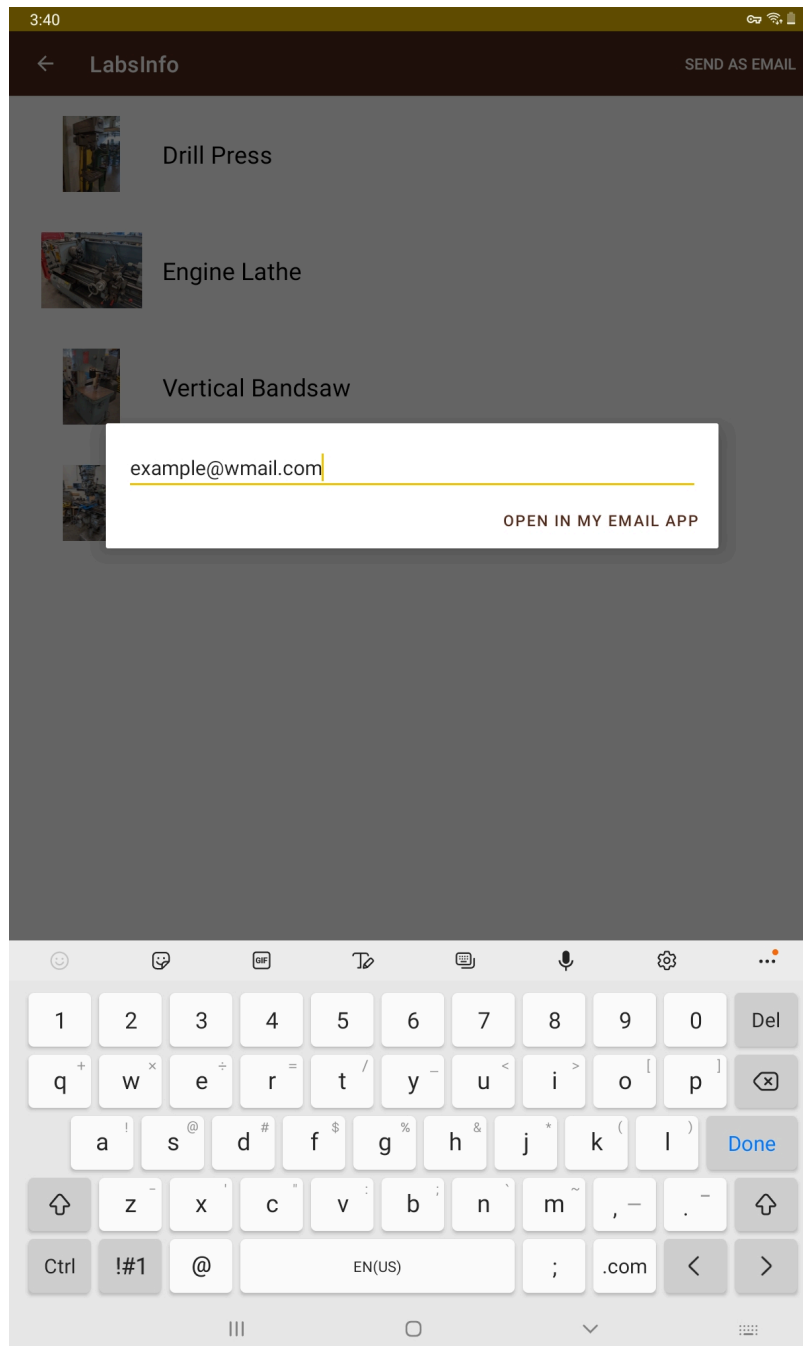
In action



In idle state

App Pages

Details




App Pages

Email Dialog

← Compose



From testceaswmu@gmail.com

To  example@wmail.com

WMU CEAS Tour - H 313

Dear Future Bronco,

We are really excited that you are considering WMU!

Here are some details about H 313:

Drill Press

The drill press is a versatile machine that uses a multiple-cutting-edged drill bit secured in a rotating chuck to bore and drill holes, normally into wood stock.

Engine Lathe

An engine lathe is a type of machinery often used to cut metal. The metal is turned, and the machine uses special cutting tools to create the desired shape.

YouTube Link: <https://www.youtube.com/watch?v=DoAQpJwVTqo>
In action

In idle state

Vertical Bandsaw

Vertical bandsaws, also known as contour saws, perform metal removal jobs that save time and material.

Vertical Milling Machine

The vertical milling machine is a precision tool used for shaping and fabrication by the removal of stock typically from metallic work pieces.

Regards,
WMU CEAS Tours Team



labOdrill.jpg



labOlathe.jpg

Email

Design

Software architecture

Android App

Server containing PHP files and database

Java code (GET request) → PHP API (SQL query) → database

Database → PHP API (JSON array) → Java code (hash maps / sets)

Design

Retrieved data used for displaying appropriate information in the App and email texts depending on QR code scanned

Client has complete control over modification of the PostgreSQL database

Invalid QR codes are ignored by App's Scanner

Usable at any college/campus connected to WMU's network / WiFi

ENTER CONTENT

Your Text

Lab 3308

Line breaks are allowed

SET COLORS

ADD LOGO IMAGE

CUSTOMIZE DESIGN



Low Quality

1000 x 1000 Px

High Quality

Create QR Code

Download PNG

QR Code Generation

<https://www.qrcode-monkey.com/#text>

Add/Update Database Info

labs_info x thumbnails x					
41 rows Tx: Auto DDL CSV					
WHERE			ORDER BY qr_string, title		
	id	qr_string	1 title	2 description	address
19	66	Unit Testing	Case A	Description for Unit Testing / Case A - No Picture / Video.	
20	67	Unit Testing	Case B		http://mshop.cs.wmich.edu/tablet/Pics/Unit Te...
21	68	Unit Testing	Case C		https://www.youtube.com/watch?v=9tobl8U7dQo
22	69	Unit Testing	Case D	Description for Unit Testing / Case D - GMC Sierra.	http://mshop.cs.wmich.edu/tablet/Pics/Unit Te...
23	70	Unit Testing	Case E	Description for Unit Testing / Case E - Celebrating Steve.	https://www.youtube.com/watch?v=CeSAjK2CBEA
24	73	Unit Testing	Case F	Description for Unit Testing / Case F - No Picture / Video.	
25	72	Unit Testing	Case F		https://www.youtube.com/watch?v=XKfgdkcIUxw
26	71	Unit Testing	Case F		http://mshop.cs.wmich.edu/tablet/Pics/Unit Te...
27	76	Unit Testing	Case G	Description for Unit Testing / Case G - No Picture / Video.	
28	74	Unit Testing	Case G	Description for Unit Testing / Case G - Apple Watch Series 7.	https://www.youtube.com/watch?v=MMdQ-gWBNZE
29	75	Unit Testing	Case G	Description for Unit Testing / Case G - Chevrolet Equinox.	http://mshop.cs.wmich.edu/tablet/Pics/Unit Te...
30	78	Unit Testing	Case H	Description for Unit Testing / Case H - No Picture / Video.	
31	77	Unit Testing	Case H		https://cdn.vox-cdn.com/thumbor/Qz4JriwqoF--D...
32	79	Unit Testing	Case I		https://www.youtube.com/watch?v=74SDT7NfxCg&l...
33	80	Unit Testing	Case I	Description for Unit Testing / Case I - No Picture / Video.	
34	81	Unit Testing	Case J		https://www.topgear.com/sites/default/files/c...
35	82	Unit Testing	Case J		https://www.youtube.com/watch?v=RowCRlt80xI&l...

Problems Faced During Development

Android no longer allows use of Java's JDBC API

Fix: Stored PHP files on server for database communication

Android recently mandated additional steps to share pictures with Email Apps

Fix: Created cache paths xml, a provider in manifest

Used them to store pictures on cache to share