Campus Cuisine: Replacement For Breaz

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Introduction

This is the document covering my replacement for the Breaz pre-ordering and food ordering app. This is for Doncaster UTC, a college that covers areas such as Creative Digital Media, Engineering and Medical Science. This will have a login system, menu and payment systems with the ability to load money onto an external NFC equipped card that every student has.

General Overview

This food ordering app provides a secure login system to access the app or website. It allows users to pay via NFC card. The app uses Apple Pay as a system for students to

add cash. Admins can change prices, add items to the menu, and access stock reports. The parents also will have access so they can see the order reports and add money from their bank cards.

For the Admins, there is access to editing the menu and adding names and students to cards, and whole stock reports that can be filtered so they know what to order to the college kitchen.

Prototype

I have created a prototype for this where all the buttons work along with a sign in and out system for security. The login information, in the full app, will be encrypted to ensure no data protection laws are broken, here are some screenshots from development.
This here is the title page, it has the header bar and footer bar that is consistent throughout the app, along with this there is the app's logo along with the Doncaster UTC logo.

Figure 1

There is also an enter button, this is what brings the user to the next page, this will be the login page for students as these are the most users that will be logging in.

Figure 2

This on the right is the student login and will be after the title splash screen. They will input their school email and a randomly generated, secure password. This will allow them to access their own account, the menu for the day, order reports and the card balance system where money can be added through services like Apple Pay or a normal bank transfer. This is all encrypted to stay within legislation and laws. If this wasn't the case

there could be legal complications and this is unwanted as the public use it. This is especially important within the school as it includes the school name, email address and password.

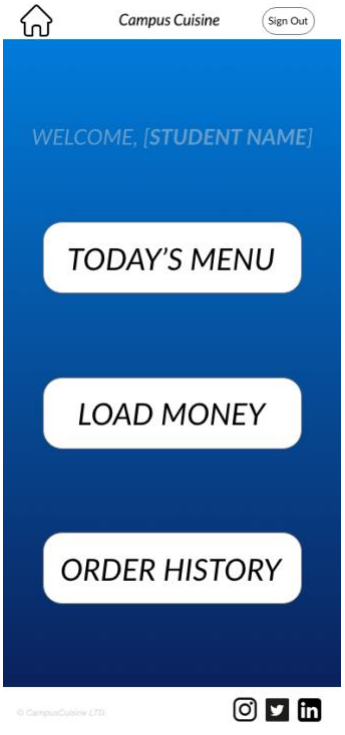


Figure 3

When logged in, the user is then brought to this home page, this is where the home in the top left of the screen is anchored to when logged in as a student, this page is easy on the eyes and easily understood by any user no matter if they are disabled or hard on sight. The buttons have large text and simple content.

Where it says "[STUDENT NAME]", in the final build there will the logged in student's name. The sign out button in the top right will be used to bring them to a splash screen where it asked if they want to sign out alike the one to the right.

Figure 4

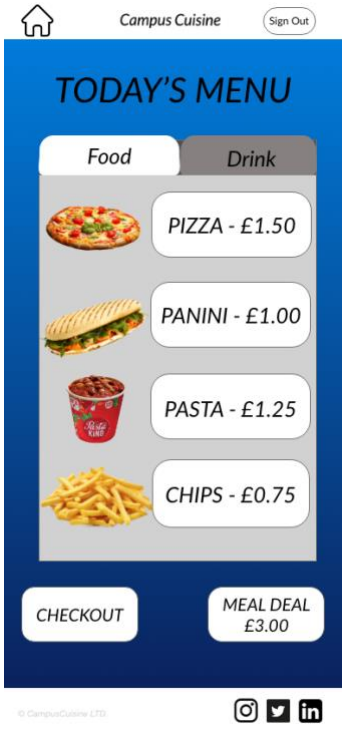


Figure 6

These screenshots are the menu for both the food and the drinks. When the labels are clicked, in the final build they will change colour to show they have been selected.

The 'Meal Deal' button will be functional and will round it down to a meal deal as this is an old deal already in the college. The checkout button will then take the user to the order screen where an overview of the order will be available along with the complete button.

The Sign Out button also is the same as *Figure 4* with the same splash screen.

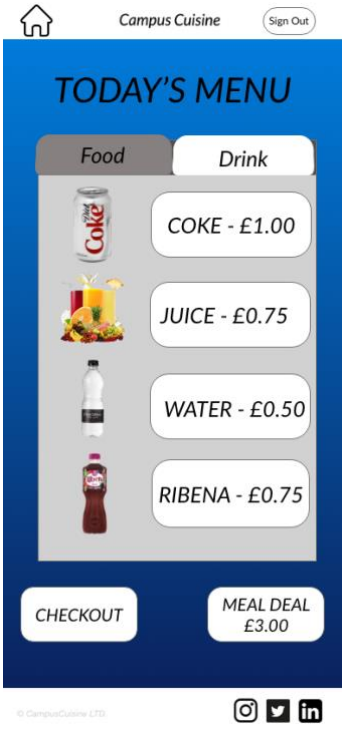


Figure 5

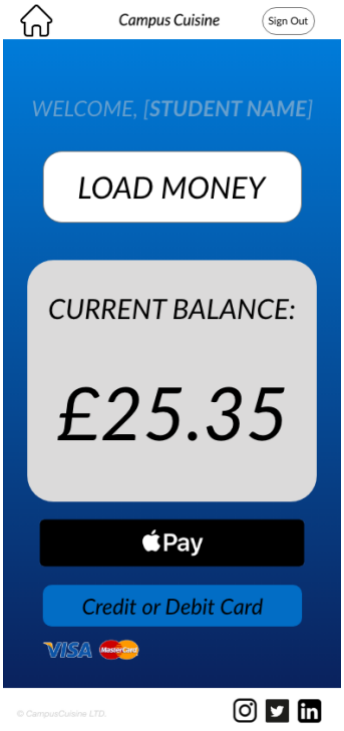


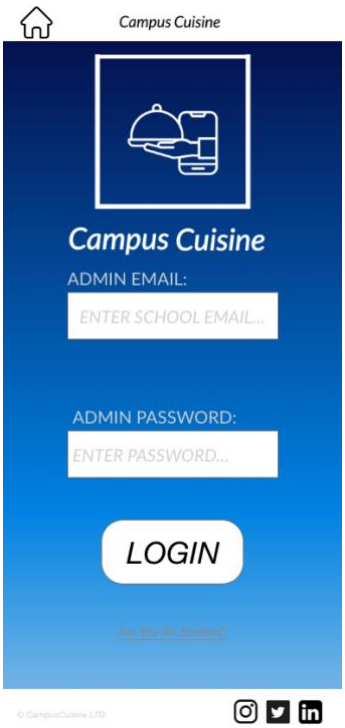
Figure 8

This is the Load Money section where the user can load money on, the image on the right is where the user will be able to add money to their account through bank transfer or Apple Pay. This can also be adapted to use other methods of mobile payment like that on Android devices

Within this prototype there is only the view for the £10 addition but this will change as we develop the dinal piece.

The Sign Out button also is the same as *Figure 4* with the same splash screen.

Figure 7



This is the admin login page, this has a link back to the student login page in case a student gets here on accident. This is where the main changes will be made by staff like menu changes stock and order history and card assignment.

This is where the sign out screen on the right will lead to, it's a similar one to the student view but will lead back to here. This is then where the user will be prompted to login again or go to the student login page.

Figure 10

Figure 9

This is the menu that the admin sees right after they login, they can edit the menu and check the history and due to the fact of all students having an NFC card there is a card assignment system that will be linked to this page. This is so that each user can be accessed and it remains contactless without the need for bank cards and only the id cards that the students have already and need to get into the building.

Figure 11

This will also match the sign out splash screen in *Figure 9*.

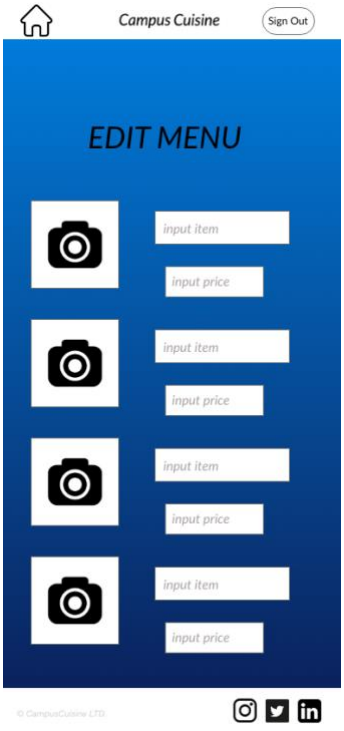


Figure 12

This is the edit menu screen only available to the admin users. It will allow the admins to add a new item or edit one that is currently on the menu, it allows an input for an item, price and image of the food. This has been made easy by the use of the blocky design and the easy upload system as it will access the images on the device with the users permission.

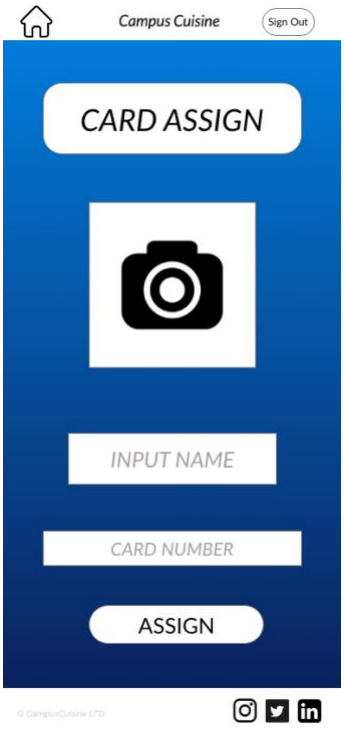
This is only a prototype so there will be a button on the bottom that will save the choices, but this is to be added. The sign out screen is identical to all other sign out screens. And these will take the user back to the login page.

Figure 13

This is the order history page and displays the name of the student who has ordered, the date, time and the total price of the order in a summary on a top bar with the individual items below this. This will allow for stock reports and detailed analytics of spending per student.

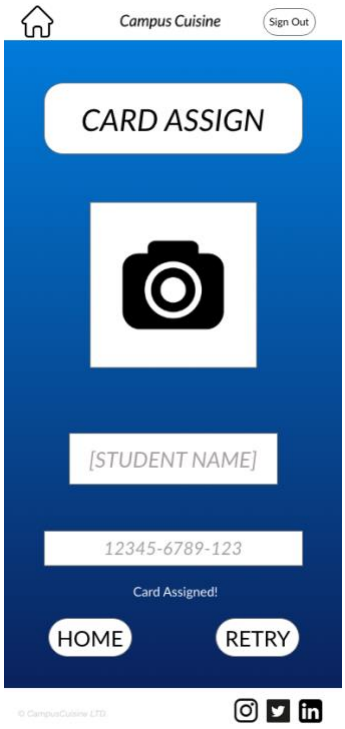
This allows for more lean production and less food waste, so there is less waste on the food and more people are making use of the system and in turn this will save DUTC money.

The sign out button displays the same splash screen also.



This is where the admins can assign a student to a card. This will be linked to the school student database to assign a card, through the card number, to a student and if needed the latest school photo of the student.

This will be through an end-to-end encrypted system to protect the data along with the student identity, it will comply with the Data Protection Act 1988 and GDPR.



The sign out on both these screen is like the others and will display the same splash screen

Interfaces

Hardware

This app is something simple for most machines to process. This means that most if not all phones can run this and this leaves room for compatibility and it means that low down hardware is the minimum for this app. It a simple app with functionality with in phone like Apple and Android Pay.

This prototype is only a phone based app as this is where the most students will work from. This will then be compatible as the current phone size is the same across the board. This version of the app isn't optimised for the web or PC as of now and this will have to be rebuilt for this platform and this will be another project and this will cost more for the DUTC.

Software

This app is built on the current version of iOS (iOS 16.2) and this is where it will function the best but this will work on android 11 along with any other software updates as it will not software reliant or graphically intensive.

There may be limitations in this as the software may not hit the criteria of using older OS so this may make the app slower for some users but most have the phones up to date so this will be a more minor use.

Communications

The communications with the user can be through push notifications or it may not even communicate with the user outside the User Interface. This will help the app notify the users and it not be forgotten with the user's app library.

This will help the user know when it is time to eat and how long wait times are in the canteen when the notifications come through. it can be linked with the DUTC database, and this can help when it comes to timing when lunch is for each student/teacher. These push notifications can be opted out of, and this will disable them.

User

The user base for this app is mostly students (13-19) but will be staff (25+) too. The younger students up to the older staff members also makes the demographic quite wide, it means there had to be a lot of changes to enhance the app to house this.

This being the user base there is many ways to market this. One way of marketing this will be within the school through word of mouth and flyers, another being marketing it via social platforms like Twitter, this will allow both the students and parents to see the account and access all the functions

Planning

The prototype that is now displayed took a lot of planning to come to fruition. This is because it has to comply with client wants and needs both on the end user and anyone in between.

Icons

The icons on this were thought out and planned to be logical and able to be used by anyone without any hassle or confusion. This applies to the home icon in the top left of all pages and the camera icons in the 'Edit Menu' and the 'Card Assign' pages.

This was also a research task when looking at other apps, there is many apps that have a home button in the menu bar or in the corner of their apps. The social links on the footer are also well known as they go to certain social medias that are mainstream and used.

Costs

With this being a new app there are a lot of costs that may come with it. It is not a paid app but to build this it costs £750 for the app itself and per year there is a £100 charge per year for maintenance. There will also have to be another £750 to rebuild it for a web based landscape system.

If any updates are to be made there will be a meeting amongst the client and the developer to discuss costs and how effective it is and how viable it is to do. This is so the price is fair for both the workers and fits in the school's budgets.

Risks and Constraints

With this app there are both risks and constraints. These have been a focus on making this to ensure that the app stays within the legal use and the legislation put in place to protect data and, in this case, student identity.

The main risk is leakage of data, this will breach the Data Protection Act, alongside the GDPR laws. To prevent this the sensitive data will be encrypted with a unique encryption key that only the authorised users will have. This will be end-to-end as it will ensure that no one can get their hands on this data and causing the breach.

A constraint with this app may be with those who use screen readers, all the photos within the app may not have the relevant alt text for the user to understand. This must be changed in future versions as if a person or people with this disability use it, it could be a breach of the Equality Act 2010.

Current and Future Use

Like most things in the world, technology is advancing at an exponential rate and with this there has to be evolutions in the app in both design and use. For example with the new iPhone 14 Pro line there is the Dynamic Island (The Trailer for the Dynamic Island: https://www.youtube.com/watch?v=WuEH265pUy4) and this means that the UI for this may have to change as it different to the classic notch that has been on the iPhone since the iPhone X. The focus on the iPhone is due to it being the easiest to test on along with it being the most widespread phone in the user base.

With current use the design is perfectly fine but in the future iPhone models if this Dynamic Island becomes a normal feature there could be an overhaul in UI that needs to be done. Furthermore, this app could be implemented into the API that runs the Island to track orders or send push notifications to the phone itself. This will improve

User Experience and will help the app become more appealing to the students in the Post-16 years of the DUTC.