

Tychel

For Your Health!

Tylor Connely, Chris Pool, Eli Meena

Overview

What we wanted to make

- Goals, Motivations, Audience, and Scope

What we made

- Use Cases, and Screen Shots

How we accomplished this

- Internal Structure, Database, and Plan Generation

A look back

- Additions and Challenges

What We Wanted To Make

Goals, Motivation, Audience, and Scope

Goals

- An Android application that provides fitness and nutrition plans
 - Takes the work out your hands
 - Gives you good recommendations
 - Customizable
 - Forms to the users needs
 - Allow user to alter plans
 - Clear and simple user interface

Motivations

- Nutritional and fitness planning isn't easy but is important
- Unique idea
 - Many don't combine both
 - Most make you work and require knowledge
- Project requires a diverse set of skills
 - Databases, MVC, UI, and Procedural Generation

Audience & Scope

Audience:

- New to fitness and nutritional planning
- Want to be healthier
- Not for the experienced or very particular

Scope:

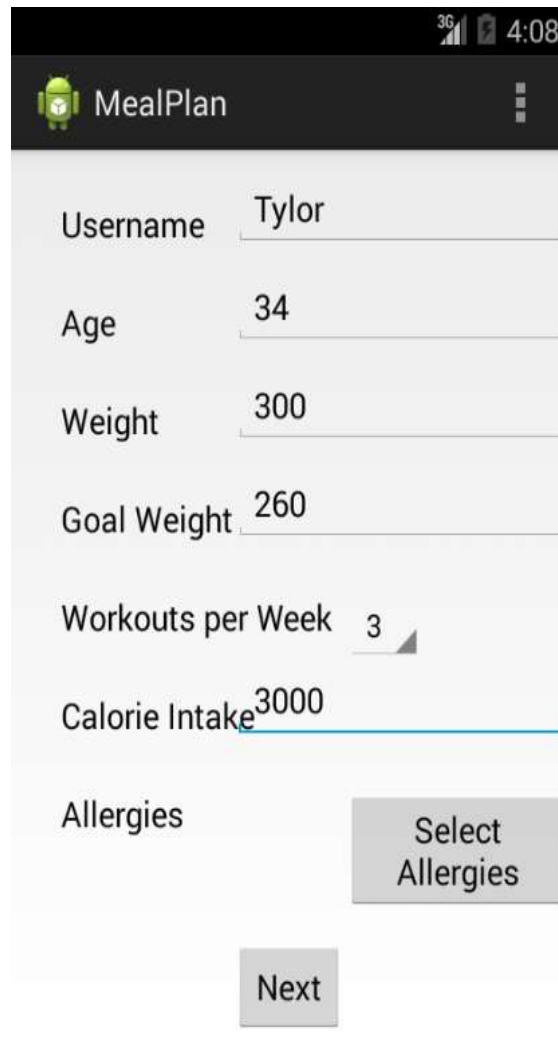
- Level of information given and retained
- Phones make it difficult and painful to enter in a lot
- Maybe not as accurate but much easier to use
- Possible turn away our target audience

What We Made

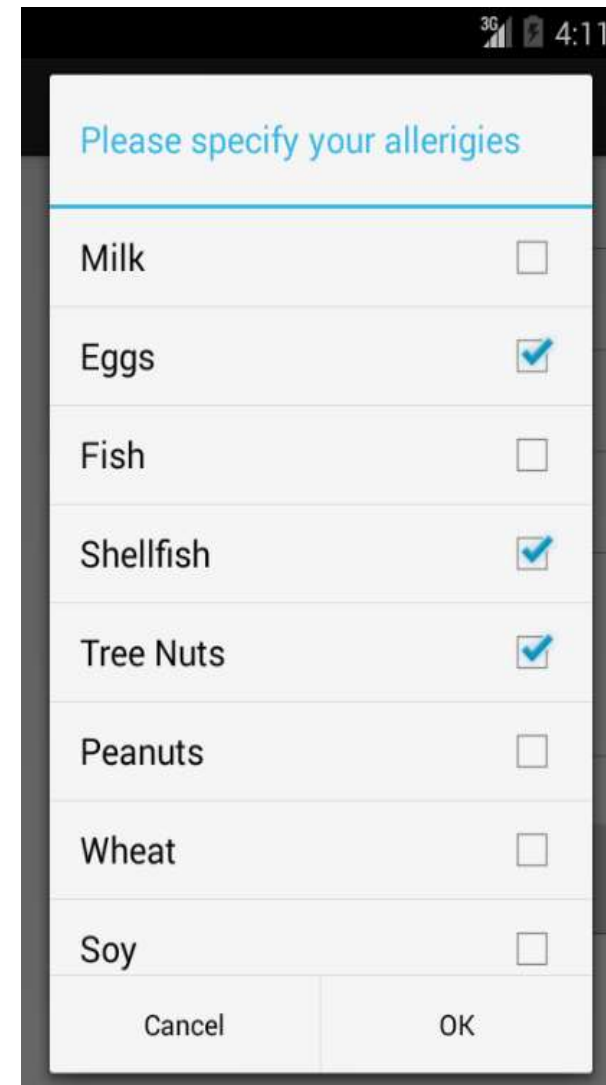
Use Cases and Screen Shots

Login

- First screen presented to
- Only completed once
- Gather information to feed into generators
- Can select most common allergies
- Define how many days a week they would like to workout



The screenshot shows the registration screen of the MealPlan app. The title bar includes the app icon and the text "MealPlan". The screen contains several input fields for user information: Username (Tylor), Age (34), Weight (300), Goal Weight (260), Workouts per Week (3), and Calorie Intake (3000). Below these fields is an "Allergies" section with a "Select Allergies" button. At the bottom, there is a "Next" button. The status bar at the top shows 3G connectivity, battery level, and the time 4:08.



The screenshot shows a dialog box titled "Please specify your allergies". It contains a list of common allergens with checkboxes: Milk, Eggs (checked), Fish, Shellfish (checked), Tree Nuts (checked), Peanuts, Wheat, and Soy. At the bottom of the dialog are "Cancel" and "OK" buttons. The status bar at the top shows 3G connectivity, battery level, and the time 4:11.

Login

- Sent here once login is complete
- A workout & meal plan has been created
- Allows for reviewing plans before accepting them

Designed Workout Plan Done

Current Weeks Workout Schedule

Sunday

Workout Name	Workout Type	equipment
Close-Grip Barbell	Chest	Yes
Bench Press		
Dumbbell Butterfly	Chest	Yes
Bottoms UP	Abdominal	No
Bench Dips	Tricep	No
Ab Roller	Abdominal	Yes
Freestyle Swim	Cardio	Yes
Butterfly Machine	Chest	Yes

Monday

Workout Name	Workout Type	equipment
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Designed Meal Plan Done

Serving Size	Food	Calories
Sunday Breakfast		
Walnut	185	4.32g 3.89g
Peaches	61	1.4g 15g
Spinach	7	.9g 1.1g
Provolone	98	7.16g .6g
Pork Tenderloin	231	34.94g 0g
Lunch		
Almond	164	6.03g 5.6g
Orange	62	1.2g 15g
Bell Pepper	30	1.3g 7g
Colby Jack	109	6.84g .46g
Pork Tenderloin	231	34.94g 0g

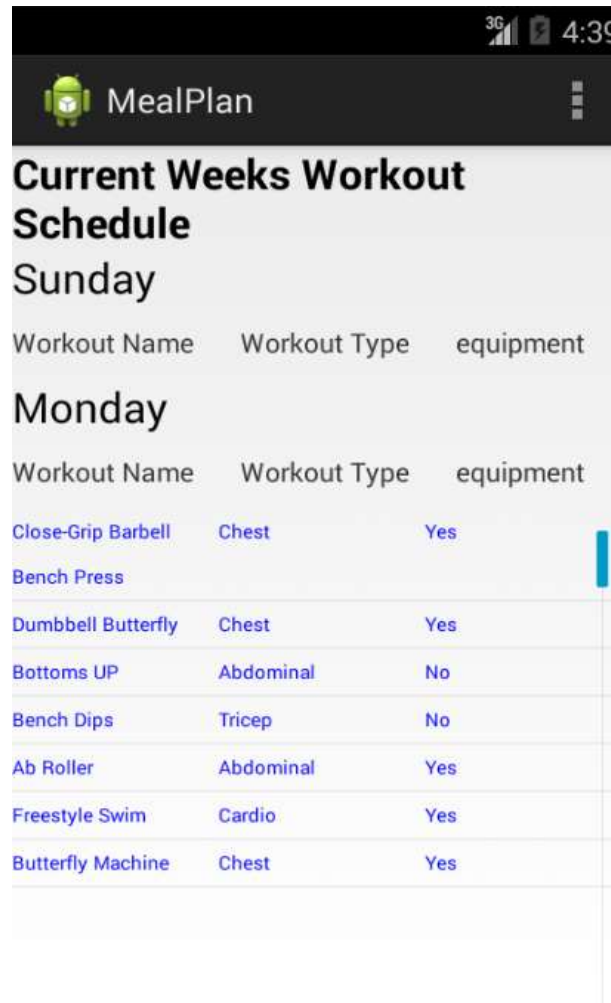
My Day

- New default page on start
- Main page of the app
- Displays the day's plans
- A single entry can be selected
 - Display description of workout
 - Display more nutritional information



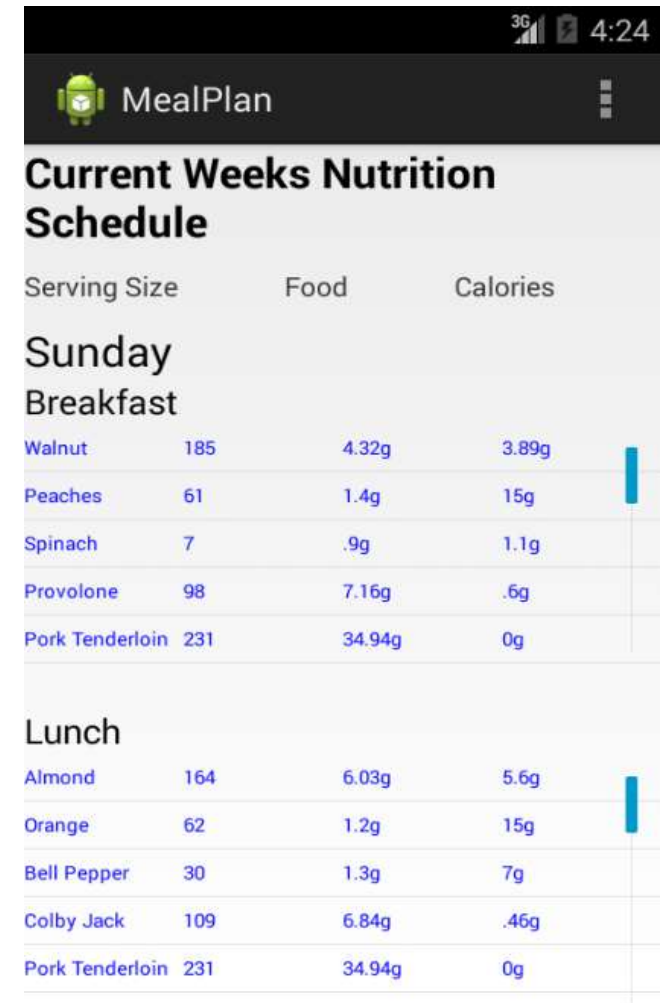
My Meal/Workout Plan

- Displays a week's plan
 - Similar format to My Day
- Allows for review of future plans



The screenshot shows the 'MealPlan' app interface. At the top, the status bar displays '3G', signal strength, battery, and the time '4:39'. The app header includes the 'MealPlan' logo and a menu icon. The main content is titled 'Current Weeks Workout Schedule' and is divided into two sections: 'Sunday' and 'Monday'. Each section contains a table with three columns: 'Workout Name', 'Workout Type', and 'equipment'.

Sunday		
Workout Name	Workout Type	equipment
Monday		
Workout Name	Workout Type	equipment
Close-Grip Barbell	Chest	Yes
Bench Press		
Dumbbell Butterfly	Chest	Yes
Bottoms UP	Abdominal	No
Bench Dips	Tricep	No
Ab Roller	Abdominal	Yes
Freestyle Swim	Cardio	Yes
Butterfly Machine	Chest	Yes

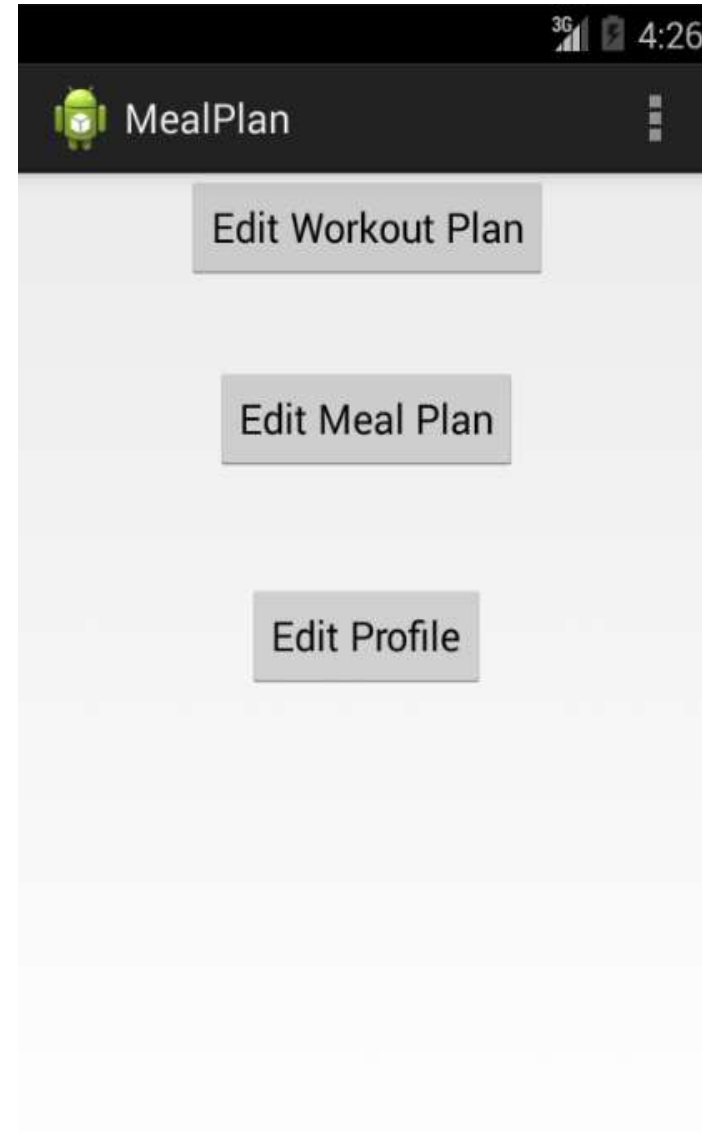


The screenshot shows the 'MealPlan' app interface. At the top, the status bar displays '3G', signal strength, battery, and the time '4:24'. The app header includes the 'MealPlan' logo and a menu icon. The main content is titled 'Current Weeks Nutrition Schedule' and is divided into two sections: 'Sunday Breakfast' and 'Lunch'. Each section contains a table with three columns: 'Serving Size', 'Food', and 'Calories'.

Serving Size	Food	Calories
Sunday Breakfast		
Walnut	185	4.32g
Peaches	61	1.4g
Spinach	7	.9g
Provolone	98	7.16g
Pork Tenderloin	231	34.94g
Lunch		
Almond	164	6.03g
Orange	62	1.2g
Bell Pepper	30	1.3g
Colby Jack	109	6.84g
Pork Tenderloin	231	34.94g

Settings

- Option to edit any type of stored information
- Edit profile will effectively send back to login screen
- Editing Meal and Workout plans
 - Send to page like My Day
 - Can select which item you wish to remove
 - Add additional entries



How We Accomplished This

Internal Structure, Database, and Plan Generation

About the Implementation

Languages used:

- Java – background logic
- XML – formatting
- SQL – database queries

IDE used:

- Started with Eclipse
- Moved to Android Studio as support was dropped

Internal Structure

Fragments:

- Represent each page
 - XMLs

Main Activity

- 'Parent' to Fragments
- Communication
 - Other fragments
 - Database

Database

- Read in from the asset folder
- Utilizes SQLite-Asset-Helper
- Implemented in Database class
 - Spreads throughout the application
 - Never accessed by the user
- Contains 32 tables
 - 23 dedicated to meal plans
 - 8 dedicated to workouts
 - 1 dedicated to user

Generation

- Intakes user inputs
 - Calories, allergies, preferred workout days, etc...
- Uses the inputs to decide
 - How much food to eat
 - What days to workout
- Selects random foods of the desired type

A Look Back

Additions and Challenges

Future Additions

- Tutorial
- Give incentive to stick to a plan
 - Goals/Progress
 - Social media integration
- Much more exercises and food
 - Also more information about each
- Workout mode
 - Display workout and music player
- More flexibility
- Better plan generation

Challenges

- Quality generation algorithms difficult
 - Not an approach taken by trainers/nutritionists
 - Ended up with a naive approach
- Working with the database
 - Connecting to it
 - Reading and displaying database entries
 - Creating display to showcase plans
- SQL!!!
- Ambitious

Questions & Answers

Thanks To: Dr. Gamboa, Jim Ward, Internet, Dr. Bailey & Van Baalen