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First Presentation

App Idea and Basic Concept

Mensa Navigator "Foodi"

Concept

- cantine navigator
- personal meal recommendations
- based on location, preferences and allergies
- navigate to the canteen

The screenshot shows a mobile application interface for 'Dresden'. At the top, there is a status bar with 'PremiumSIM', signal strength, Wi-Fi, time '17:59', location, and battery '83%'. Below the status bar, the word 'Dresden' is displayed in a large font, accompanied by a person icon. The main content area features three meal recommendations, each in a white card with a colored border. The first card has a grey border and shows 'Gebackenes Schollenfilet an Mediterranen' with 'Nudelsalat, dazu Salatmix' for 3.08€, located at 'Mensa Siedepunkt' 1.43 km away. The second card has a yellow border and shows 'Strudelteig gefüllt mit Karotten, Erbsen, Bohnen, Blumenkohl, Kohlrabi und weißen Rüben, dazu Kräutersoße und Feldsalat' for 2.85€, also at 'Mensa Siedepunkt' 1.43 km away, with a carrot icon. The third card has a green border and shows 'Gratinierter Gemüse-Süßkartoffelgnocchi Auflauf' for 2.35€, also at 'Mensa Siedepunkt' 1.43 km away, with a leaf icon. At the bottom, there is a blue navigation bar with four icons: a magnifying glass for 'Finder', a funnel for 'Filter', a map for 'Navigation', and a gear for 'Settings'.

PremiumSIM 17:59 83%

Dresden

Gebackenes Schollenfilet an Mediterranen
Nudelsalat, dazu Salatmix 3.08€
Mensa Siedepunkt 1.43 km

Strudelteig gefüllt mit Karotten, Erbsen, Bohnen, Blumenkohl, Kohlrabi und weißen Rüben, dazu Kräutersoße und Feldsalat 2.85€
Mensa Siedepunkt 1.43 km

Gratinierter Gemüse-Süßkartoffelgnocchi Auflauf 2.35€
Mensa Siedepunkt 1.43 km

Finder Filter Navigation Settings

Adaptation Concept

Context Features

Technical Context

Network



- Online
- Bad Connection
- Offline

Physical Context

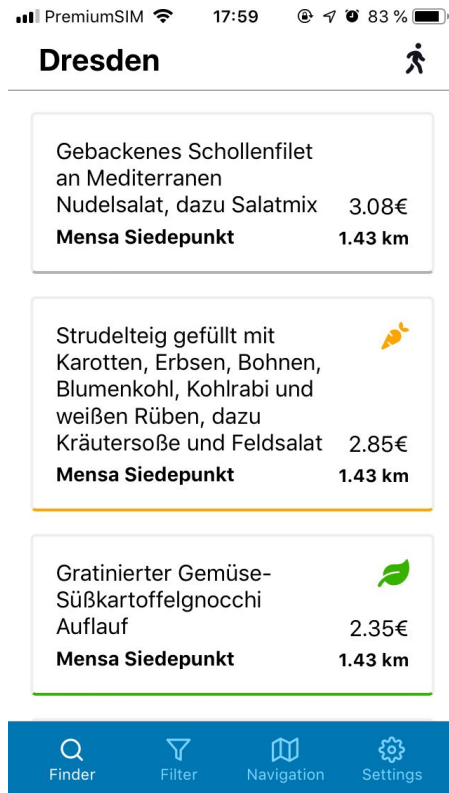
Location



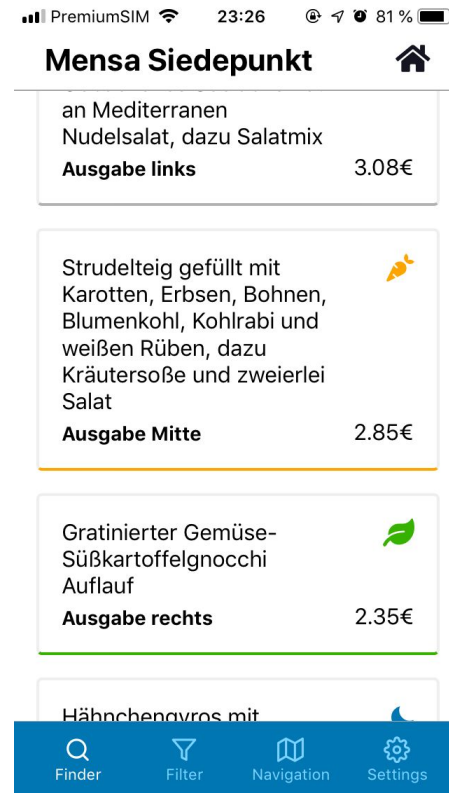
- in canteen
- near canteen
- far away

Adaptation Concept

Adaptation Mechanisms: Location in **front-end**



Out of canteen



In canteen

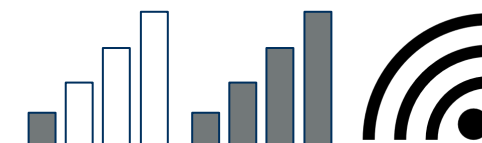
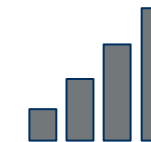
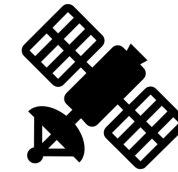
Detects changes in the location context:

- **in a canteen**
 - show only meals of canteen
 - show the counter instead of canteen
 - don't show the distance
- **out of a canteen**
 - show distance to meal
 - show name of canteen of the meal

Adaptation Concept

Adaptation Mechanisms: Location and Network in **back-end**

- Reduces GPS precision when the location context is “FAR AWAY”
- Prefetch meals for whole week when in WiFi
- Reduce network traffic when using cellular data
- network priority and queue length depending on network speed



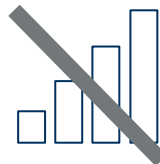
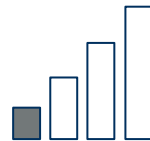
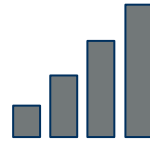
Adaptation Concept

Parameters

Traffic Limit

Unlimited

Limited



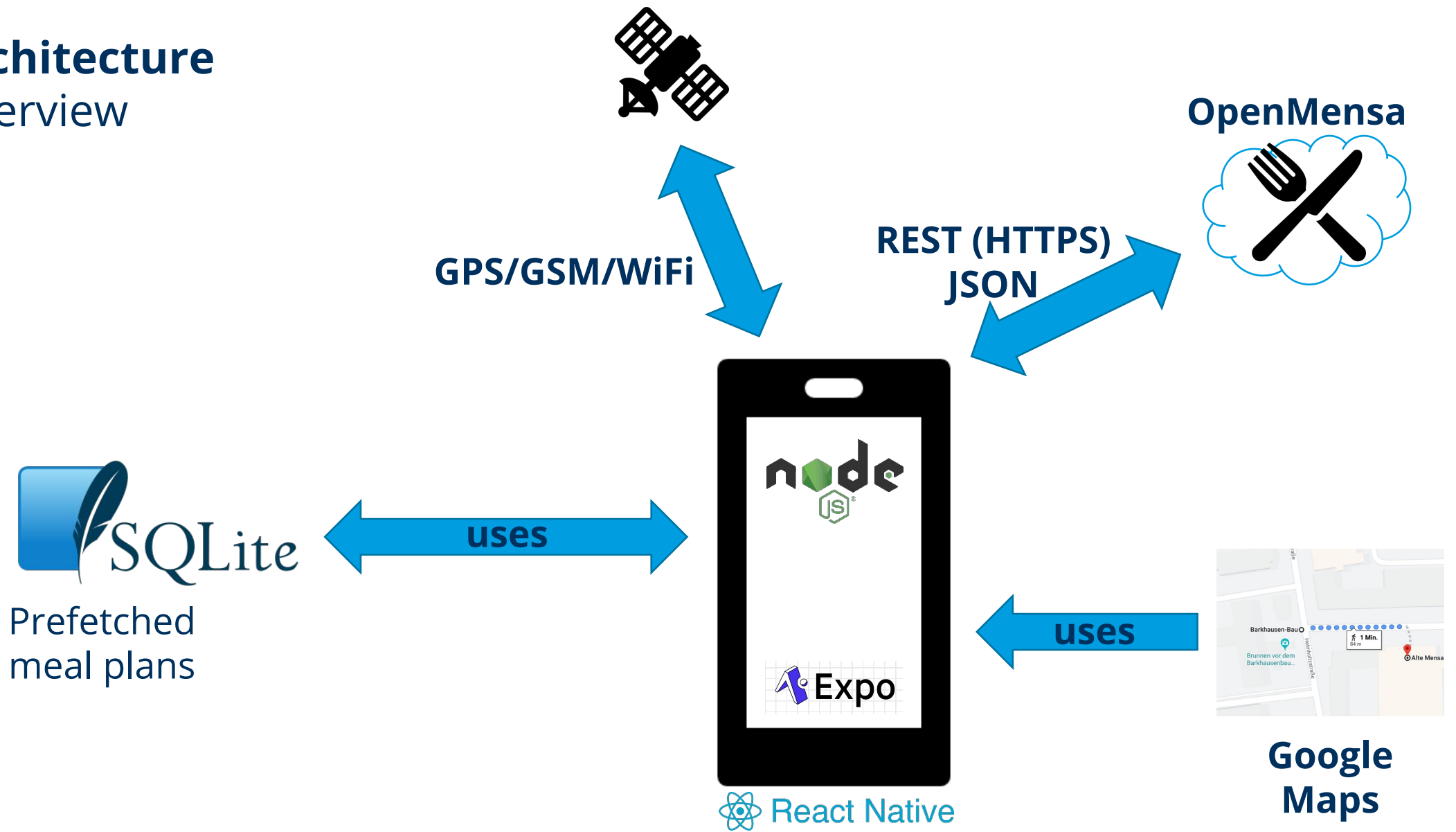
Network Speed

Fast

Slow

None

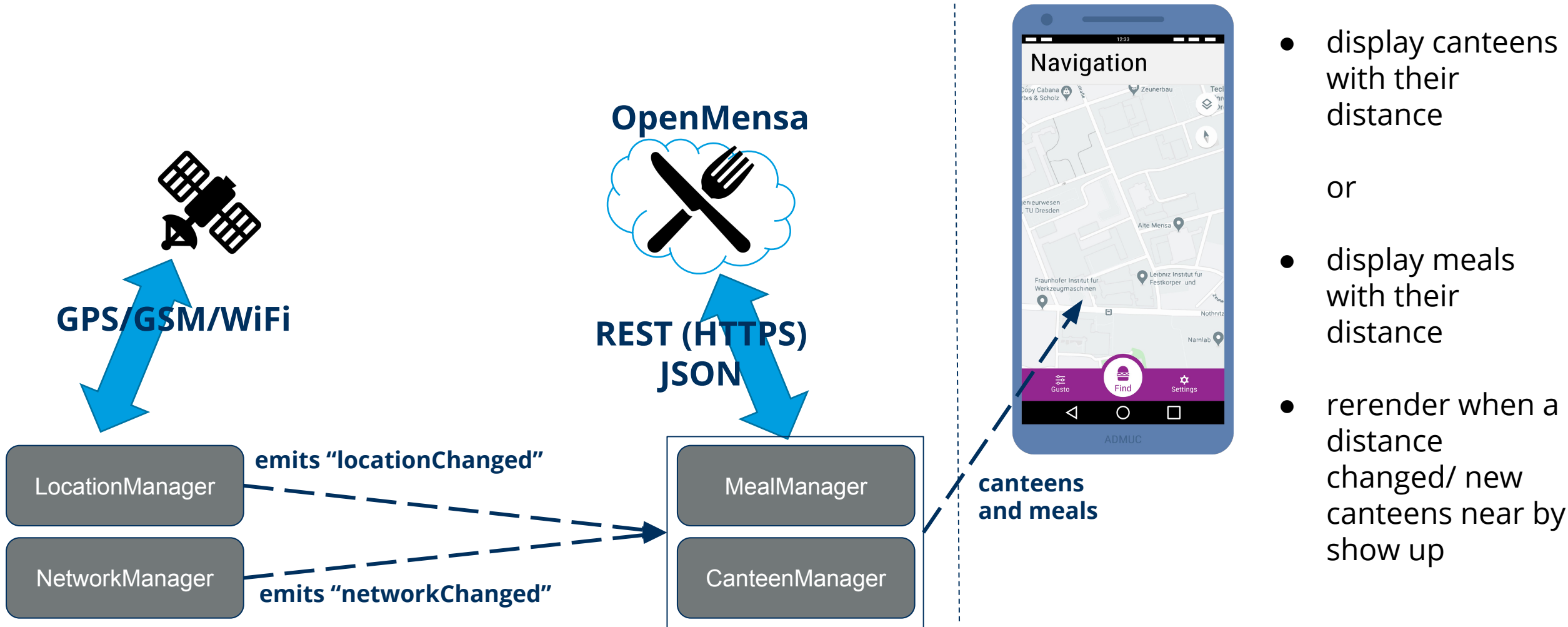
Architecture Overview



Architecture Detail

Backend

Frontend



- display canteens with their distance
- or
- display meals with their distance
- rerender when a distance changed/ new canteens near by show up