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# MeetForSport: Adaptation Concept

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# App Idea

# MeetForSport

This app will allow users to join group activities (i.e. football) or join ongoing events. Targeting mostly active persons, this small social network will allow users to find new friends/persons with the same interests and therefore allow these people to become more active.

# Problematic Situations

# Situation 1: No internet connection



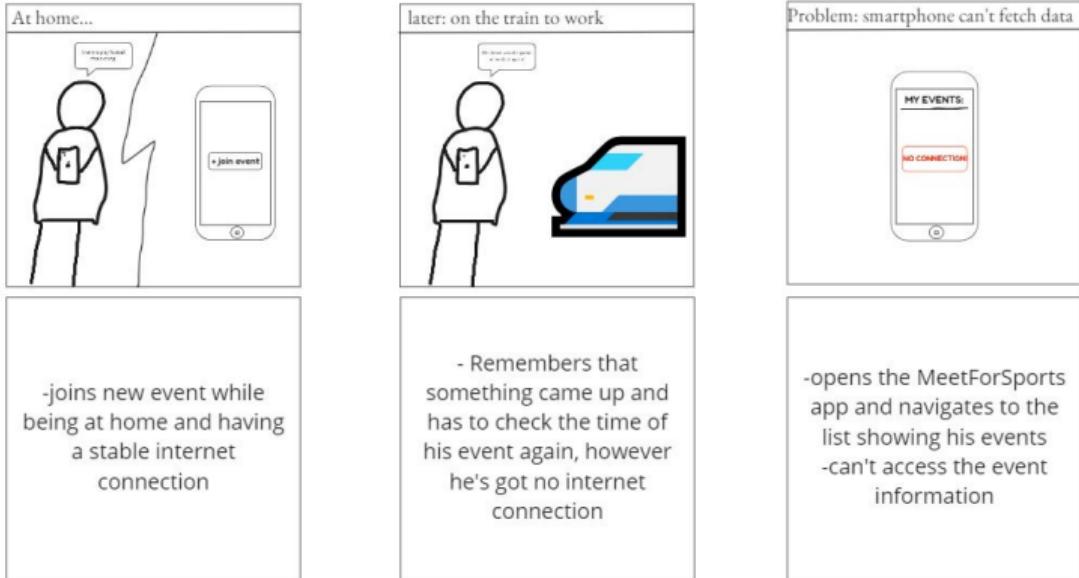
## Situation 2: low battery



# Situation 1: Offline Challenge

# Situation 1: Storyboard

- Persona: Fred Flintstone, Student
- Scenario: Check event information on the go



# Situation 1: Storyboard

Solution:  
Basic information for each event is stored in a local data base

Solution: save data locally



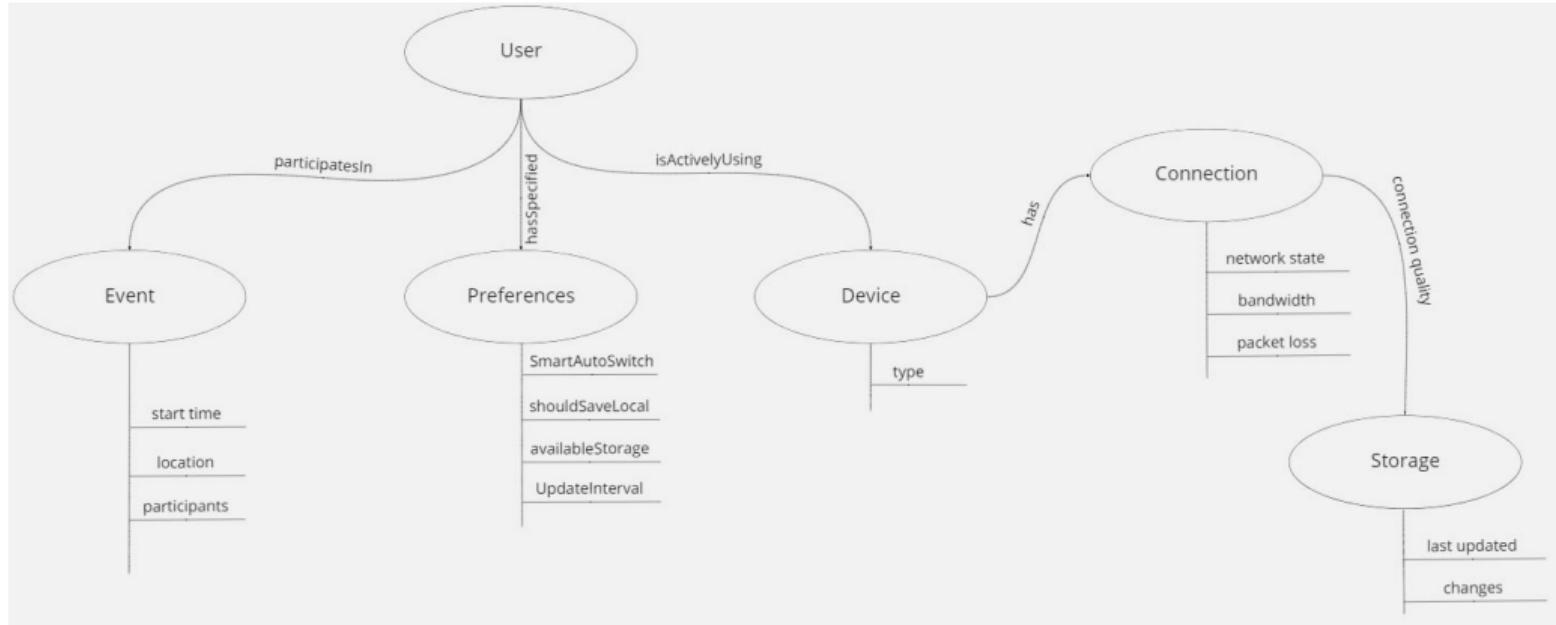
Solution: save data locally



-opens the MeetForSports app and navigates to the list showing his events  
-he selects the event from which he needs to check some information

- App saved all relevant information locally on his device and updates information if a connection is available

# Situation 1: Context Model



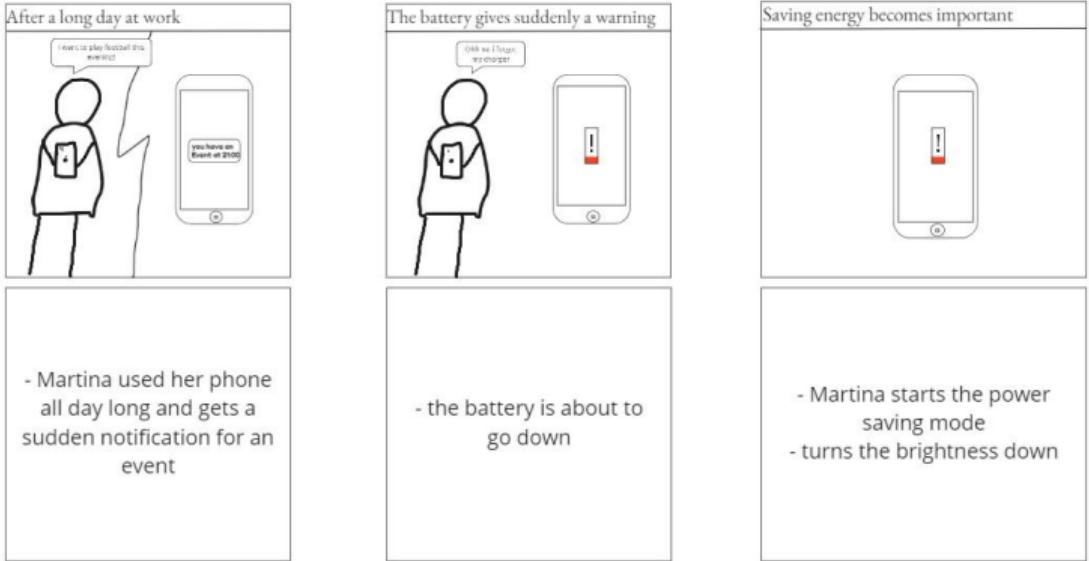
# Situation 1: MAPE-K

- Monitor: Network state, Packet loss, Bandwidth (via ConnectivityManager and WifiManager)
- Analyze:
  - Case 1: No connection
  - Case 2: Stable connection
- Plan:
  - Case 1: use cached data and avoid location tracking
  - Case 2: update data
- Execute:
  - Case 1: load cached data, ignore online messages, activate location tracking only if unavoidable
  - Case 2: send requests for updates, fetch only web data, track location if beneficial for user experience
- Knowledge: Store behavior model in Android Preferences

# Situation 2: Energy Challenge

## Situation 2: Storyboard

- Persona: Martina Rina, Car Mechanic
- Scenario: Low battery status



## Situation 2: Storyboard



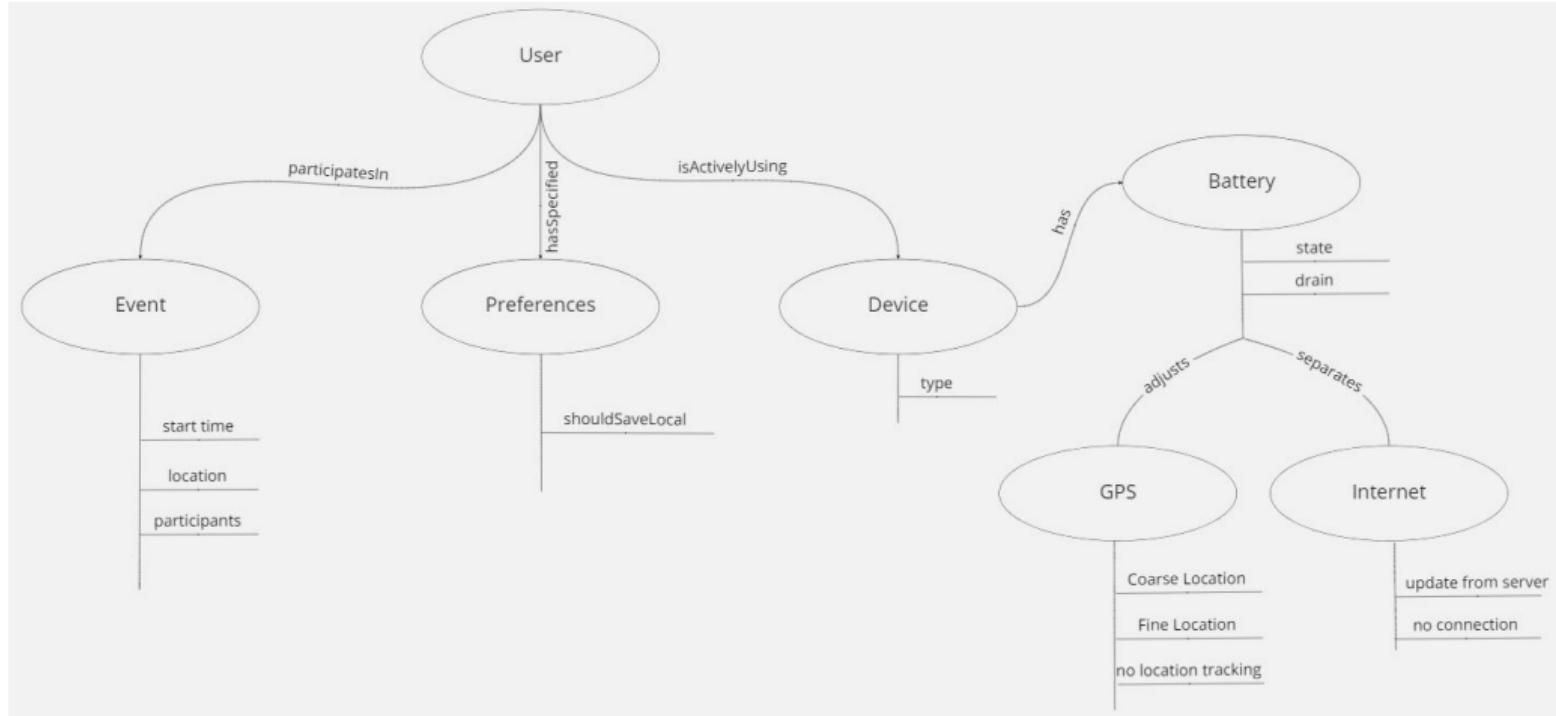
Solution:  
engages in necessary  
battery saving modes



- Martina opens the app to check important event information
- the app's usage leads to the battery being drained even more and the risk of the device shutting down

- the MeetForSports app stops most communications to the outside
  - local data will mostly be used
    - GPS signals will (if used) differentiate between being close and far from the target and adjust their accuracy
- > The battery is drained slower

## Situation 2: Context Model

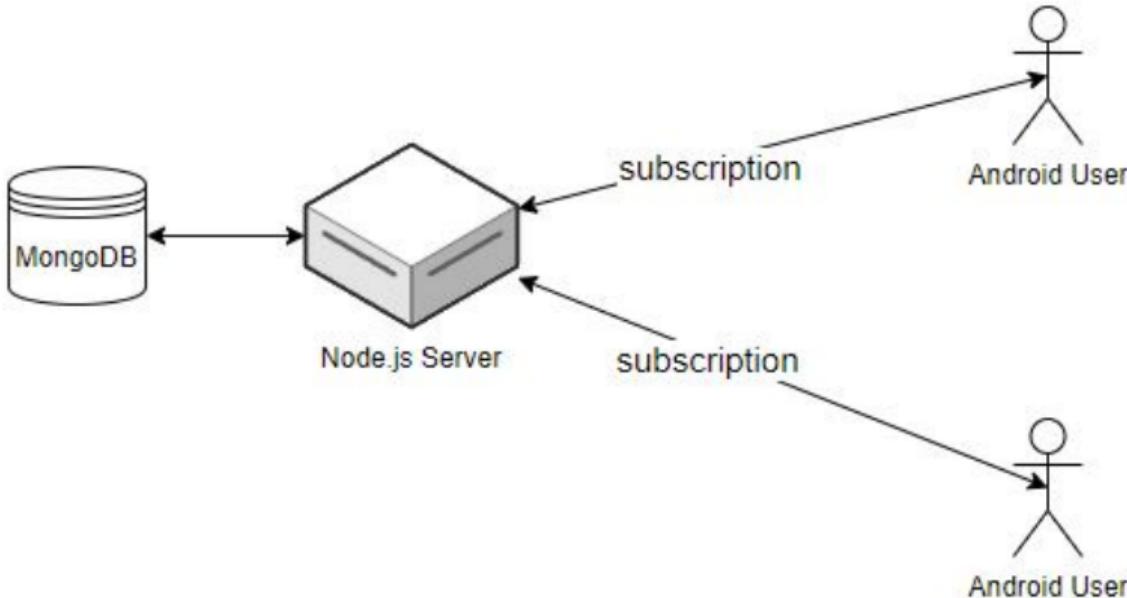


## Situation 2: MAPE-K

- Monitor: Batterie state (via BatteryManager)
- Analyze:
  - Case 1: batterie state < LOW && batterie state > CRITICAL
  - Case 1: batterie state < LOW && batterie state < CRITICAL
  - Case 1: batterie state > LOW && batterie state > CRITICAL
- Plan:
  - Case 1: limit gps, fetch only important data
  - Case 2: no gps, only cached data
  - Case 3: use ACCESS\_FINE\_LOCATION for GPS, fetch data if possible
- Execute:
  - Case 1: set permission to ACCESS\_COARSE\_LOCATION, use cached data for unimportant things
  - Case 2: revoke permissions
  - Case 3: set ACCESS\_FINE\_LOCATION for GPS, grant every Internet permission
- Knowledge: Store permissions in user preferences

# Detailed Architecture and Technology Choice

# Detailed architecture and technology choice



# Detailed architecture and technology choice

