Carcass

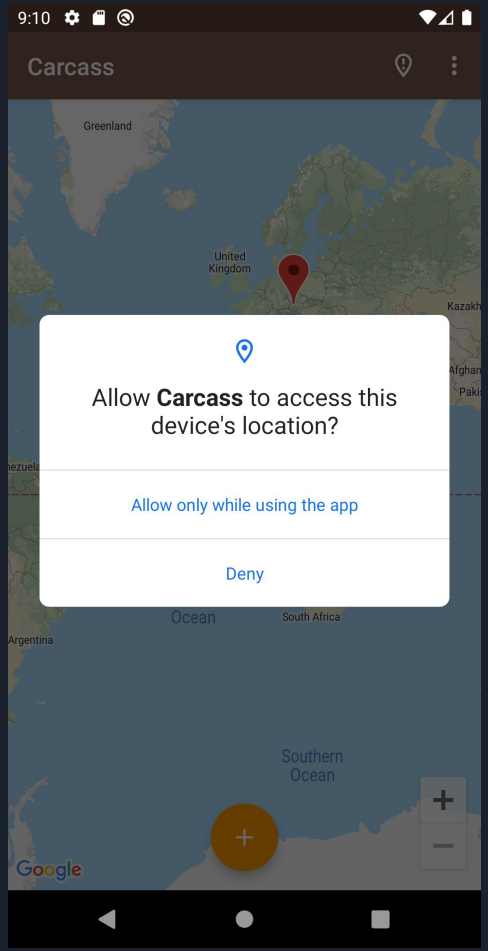
by Mathias Wöß

Idea

- Report dead animal body locations
- Inform people and authorities
- Keep neighbourhood clean
- Help getting rid of the carcasses
- Provide optional picture
- Anonymous
- Real time updates

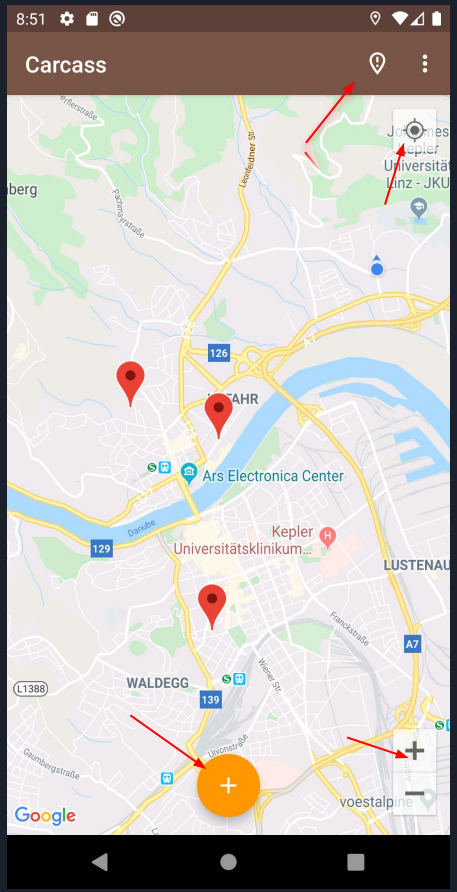
Permissions

- Ask user to provide location permission



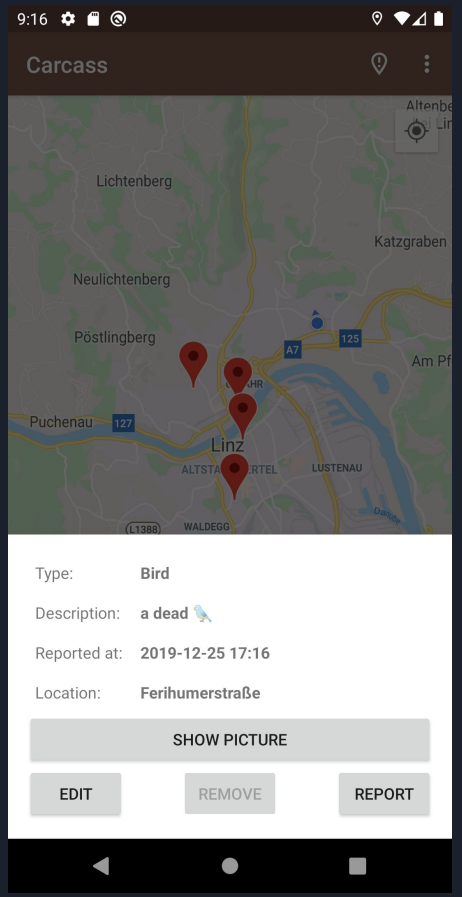
Main UI

- Google Maps integration
- Firebase DB for data
- Show current location
- FloatingActionButton to add
- ActionButton to show/hide flagged Markers
- Center Location
- Zoom-Buttons



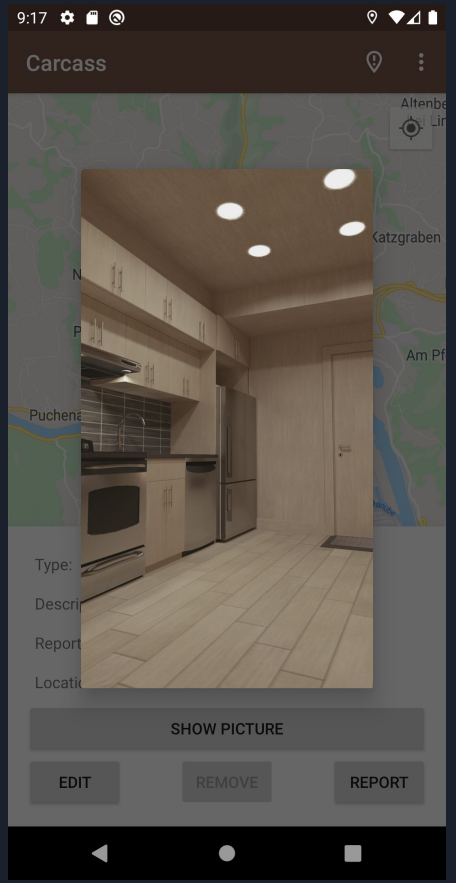
Details

- BottomSheetFragment
- Details about
  - Type
  - Description
  - Location
  - Time of reporting
- Buttons
  - Edit
  - Remove
  - Report/Flag
  - Show picture
    - Because not always pleasant



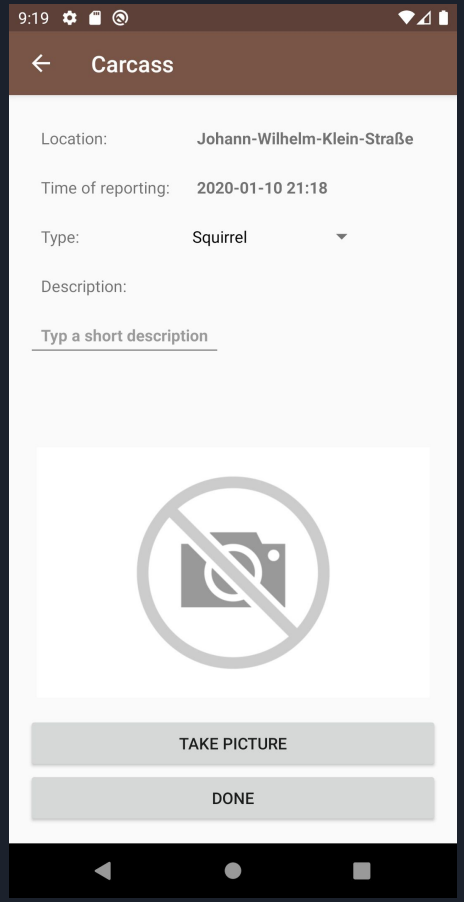
Show picture

- Get from server
- Show as overlay
- Easily dismissable
- On demand loading
  - Data saving



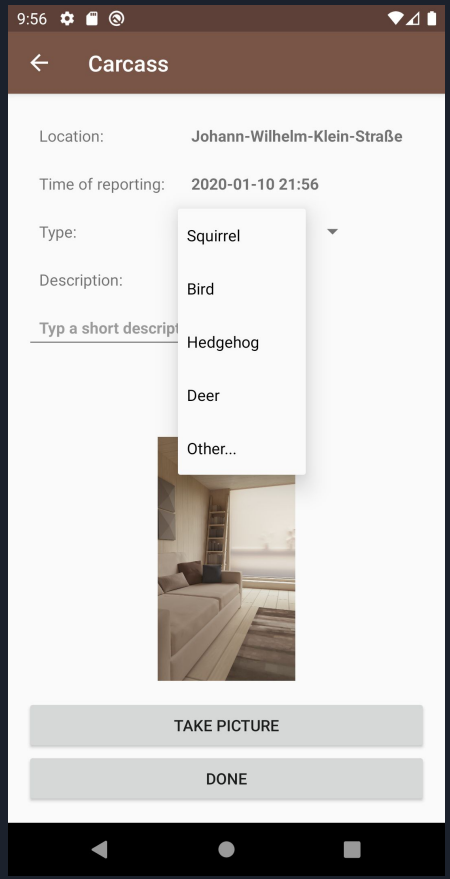
Add

- Add new entries at current location
- Capture time of reporting
- Choose kind/type
- Optional description
- Add picture
  - Camera Intent



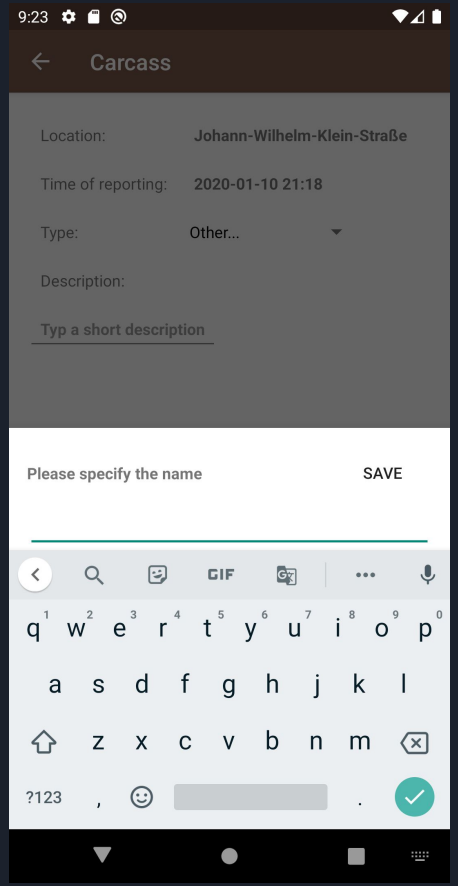
Select type

- Choose type of animal
  - Data from server
- Offer “Other…” entry
  - Add new types



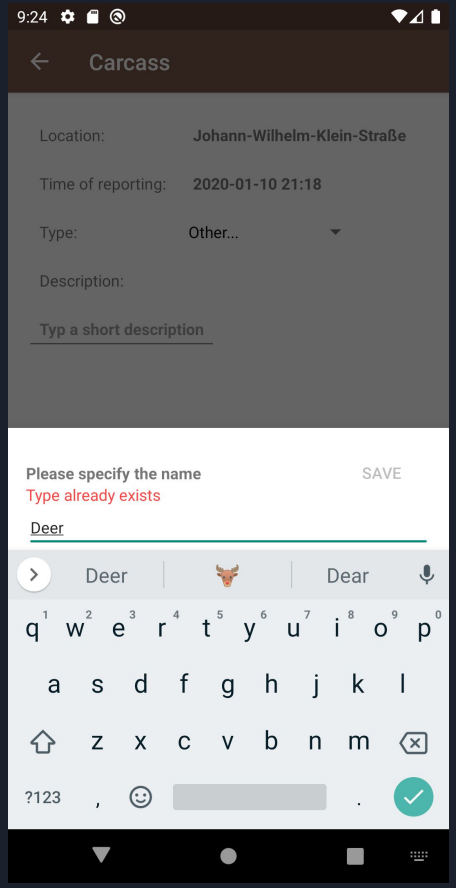
Other...

- Define new type
- Show modal bottom sheet dialog
- Open keyboard and focus



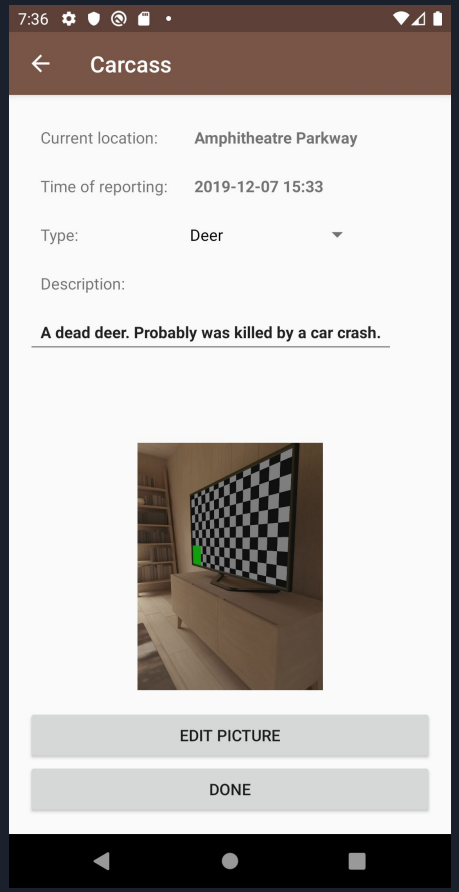
Other...

- Check duplicates
- Only define new
- Synchronize with database



Edit

- Update existing entries
- Pre-Fill data
- Load picture from server if exists
  - Show cropped
- Add/update missing/existing picture
- Provide missing/update existing description
- Change type



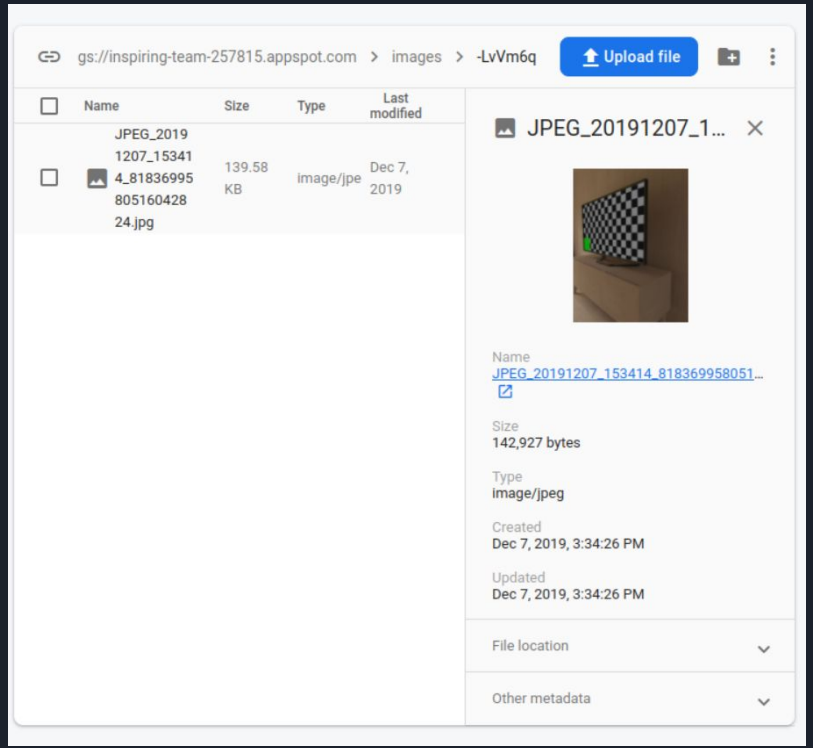
Database

2 major nodes:

- animalTypes
  - Name
- Carcasses
  - Type
  - Location
  - Description
  - Date (Epoch format)
  - URL to picture
  - Flagged

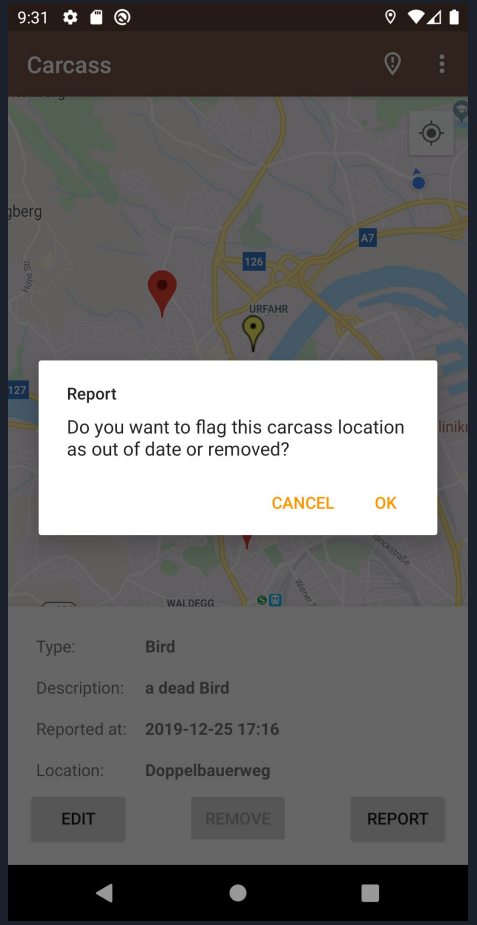
Storage

- Keep full sized images
- Update on edit
- Remove if marker removed
- Link to entry by “url” field



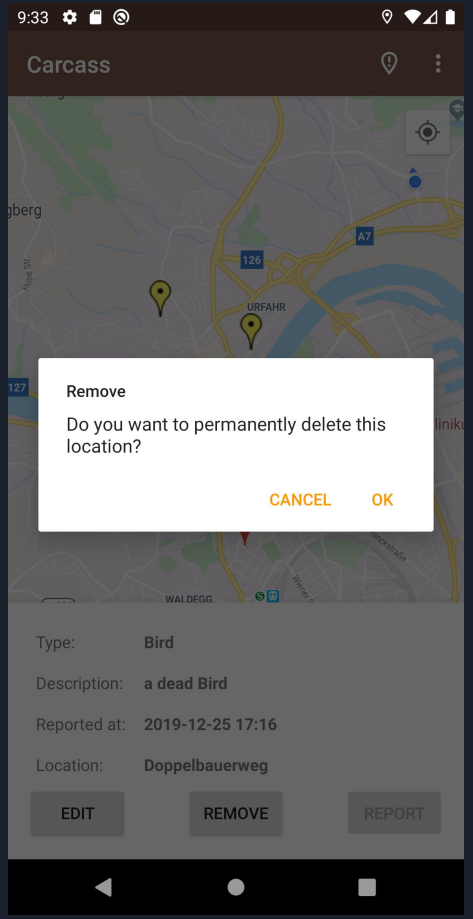
Flag entry

- Provide option to flag marker
  - Out of date
  - Removed
  - Inappropriate
- Visualize by different icon
- Reset flag by editing entry again



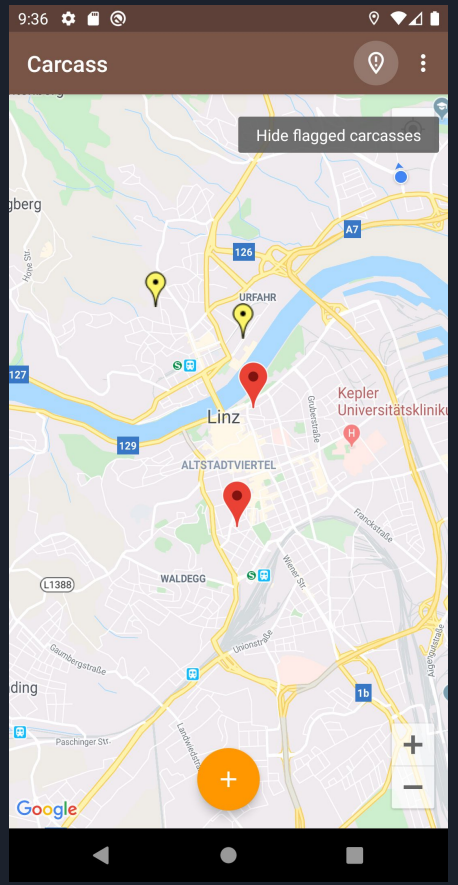
Remove entry

- Only when flagged
- Do not provide at once
  - 1 day
  - 1 week
  - ...
  - Give chance to update
- Remove button disabled until then



Hide flagged markers

- Action bar icon
- Show or hide, depending on state
- Filter “useless” information
- Persist in state bundle



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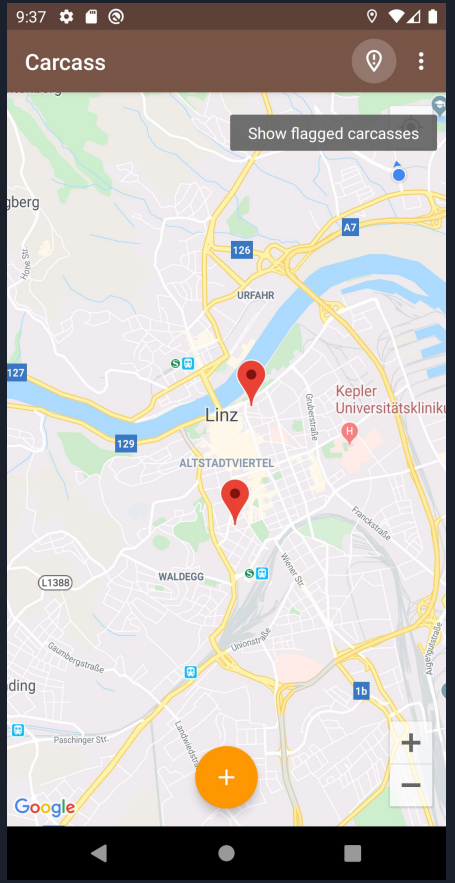
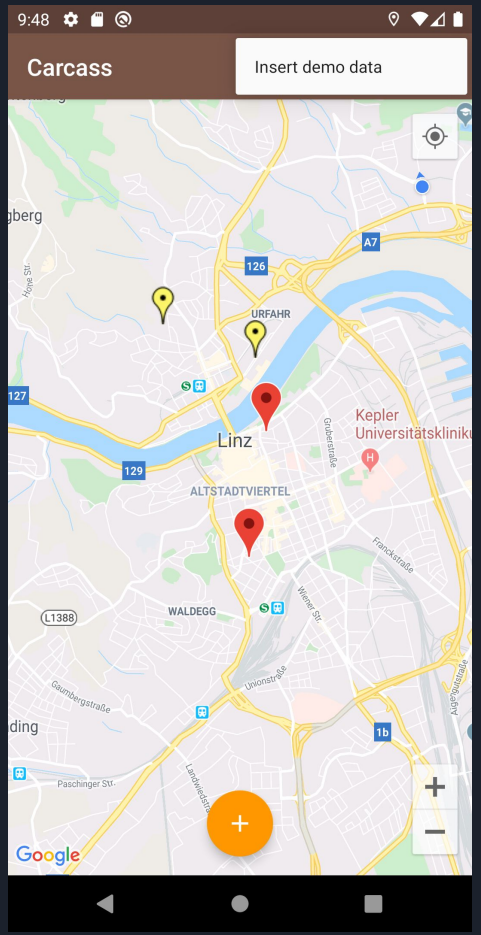


Insert Demo Data

- Debug function to test app
- Adds random markers around current location
- Random type and description



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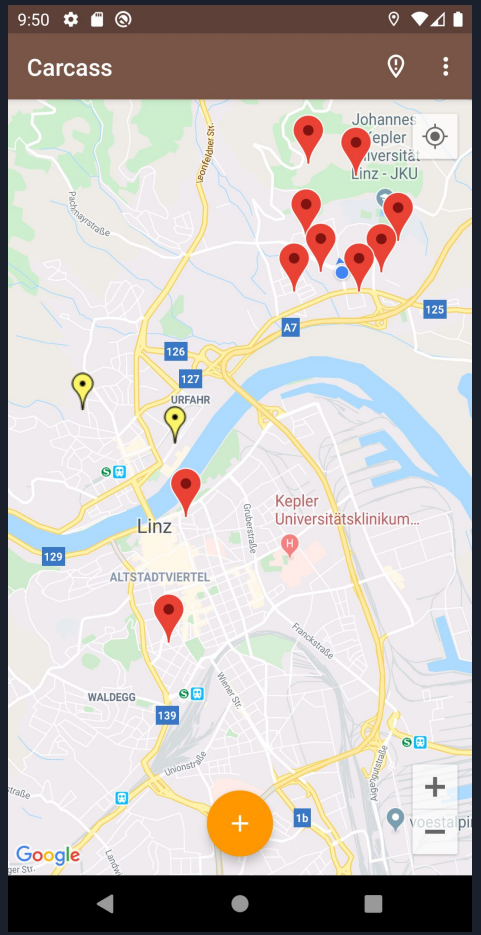

Live demo in emulator

Complications and Challenges

- Firebase DB integration
- Json representation of all data and parsing
- Additional Firebase Storage integration for binary (non-string) data (images)
- Kotlin (new language)
- Maps API
- Camera functionality and image processing
- Android lifecycle
- Location updates

Thank you!

It was fun developing on Android!

Questions?