Library App

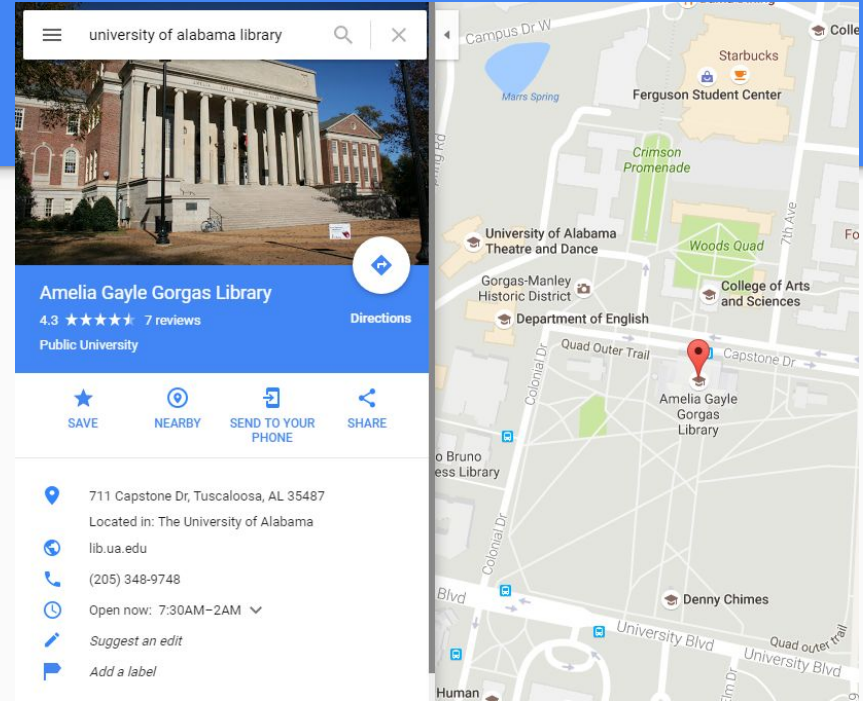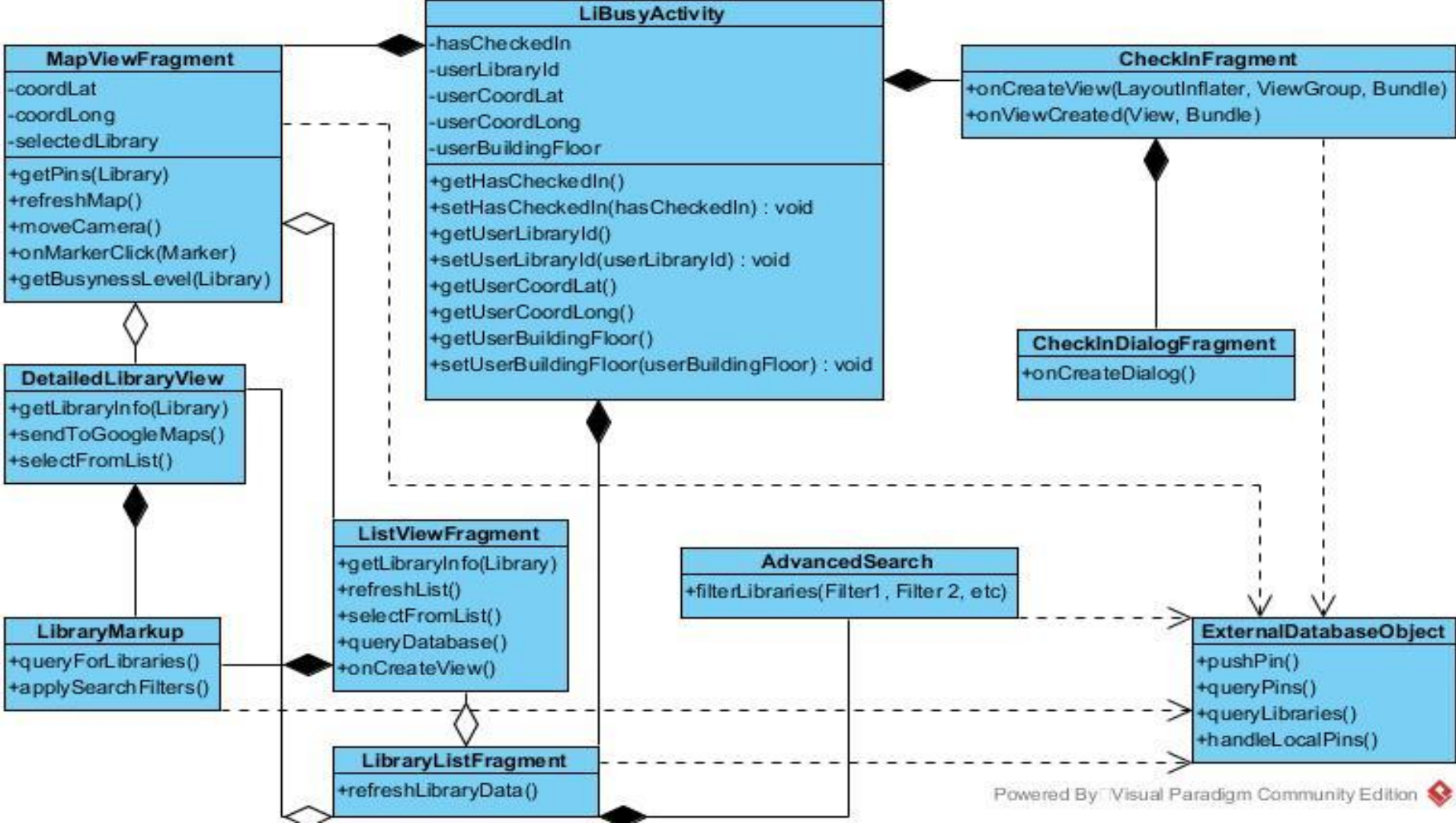Kevin Shannon, Dillon Wastrack, Alex Heath, Keith Waggoner

The Problem

- The University of Alabama is facing overpopulation problems as UA continues to grow
- Biggest problem area: campus libraries/ study areas
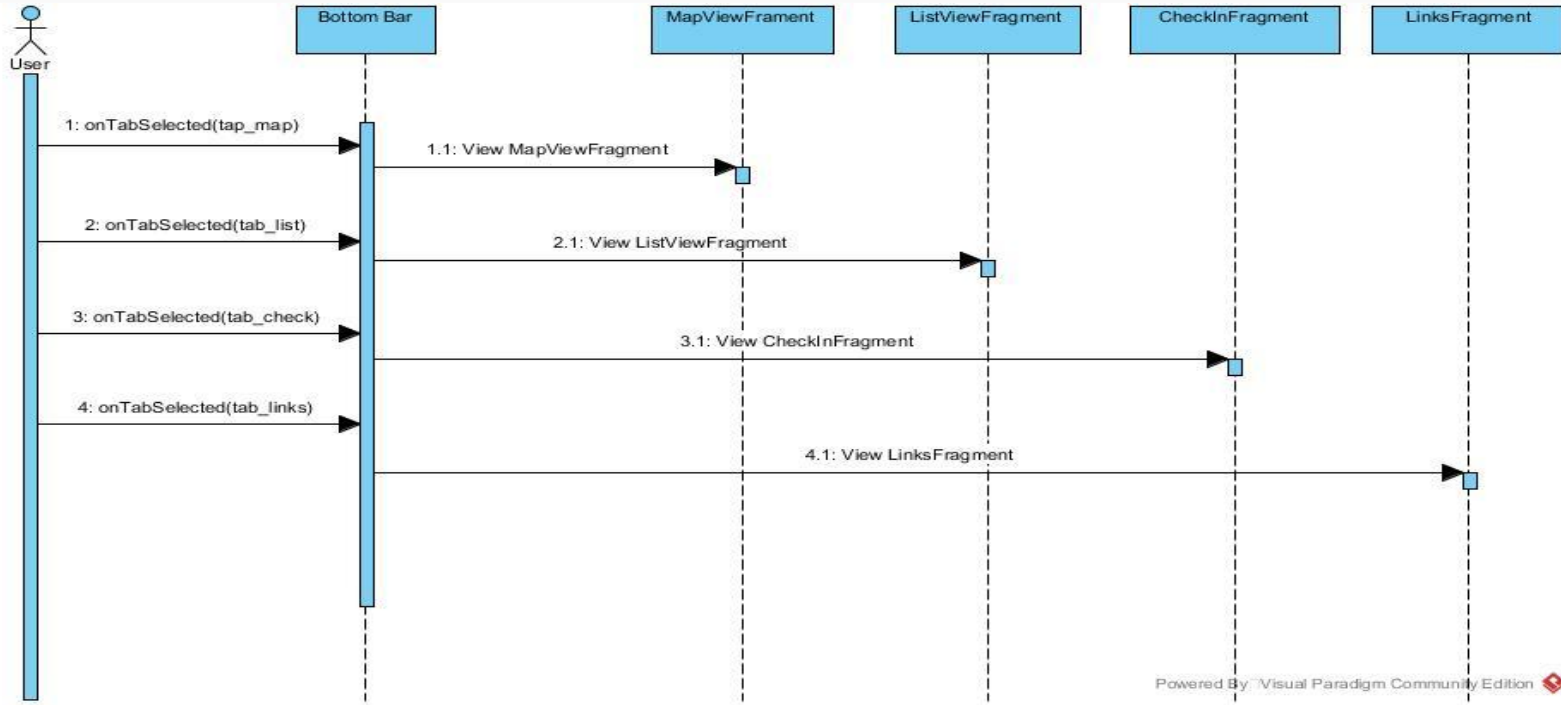- Students face great difficulty searching for open seats, tables, and study rooms

Scope

- Track busyness and available seats in study areas
- Interactive Map of study areas
- Search/filtering features
- Limited to The University of Alabama's official libraries (Gorgas, Rodgers, McClure, Bruno)
  - To provide a working viable minimum product
  - Able to demonstrate possible value

LiBusyActivity

-hasCheckedIn
-userLibraryId
-userCoordLat
-userCoordLong
-userBuildingFloor

+getHasCheckedIn()
+setHasCheckedIn(hasCheckedIn) : void
+getUserLibraryId()
+setUserLibraryId(userLibraryId) : void
+getUserCoordLat()
+getUserCoordLong()
+getUserBuildingFloor()
+setUserBuildingFloor(userBuildingFloor) : void

MapViewFragment

-coordLat
-coordLong
-selectedLibrary

+getPins(Library)
+refreshMap()
+moveCamera()
+onMarkerClick(Marker)
+getBusynessLevel(Library)

CheckInFragment

+onCreateView(LayoutInflater, ViewGroup, Bundle)
+onViewCreated(View, Bundle)

CheckInDialogFragment

+onCreateDialog()

DetailedLibraryView

+getLibraryInfo(Library)
+sendToGoogleMaps()
+selectFromList()

ListViewFragment

+getLibraryInfo(Library)
+refreshList()
+selectFromList()
+queryDatabase()
+onCreateView()

AdvancedSearch

+filterLibraries(Filter1, Filter 2, etc)

LibraryMarkup

+queryForLibraries()
+applySearchFilters()

ExternalDatabaseObject

+pushPin()
+queryPins()
+queryLibraries()
+handleLocalPins()

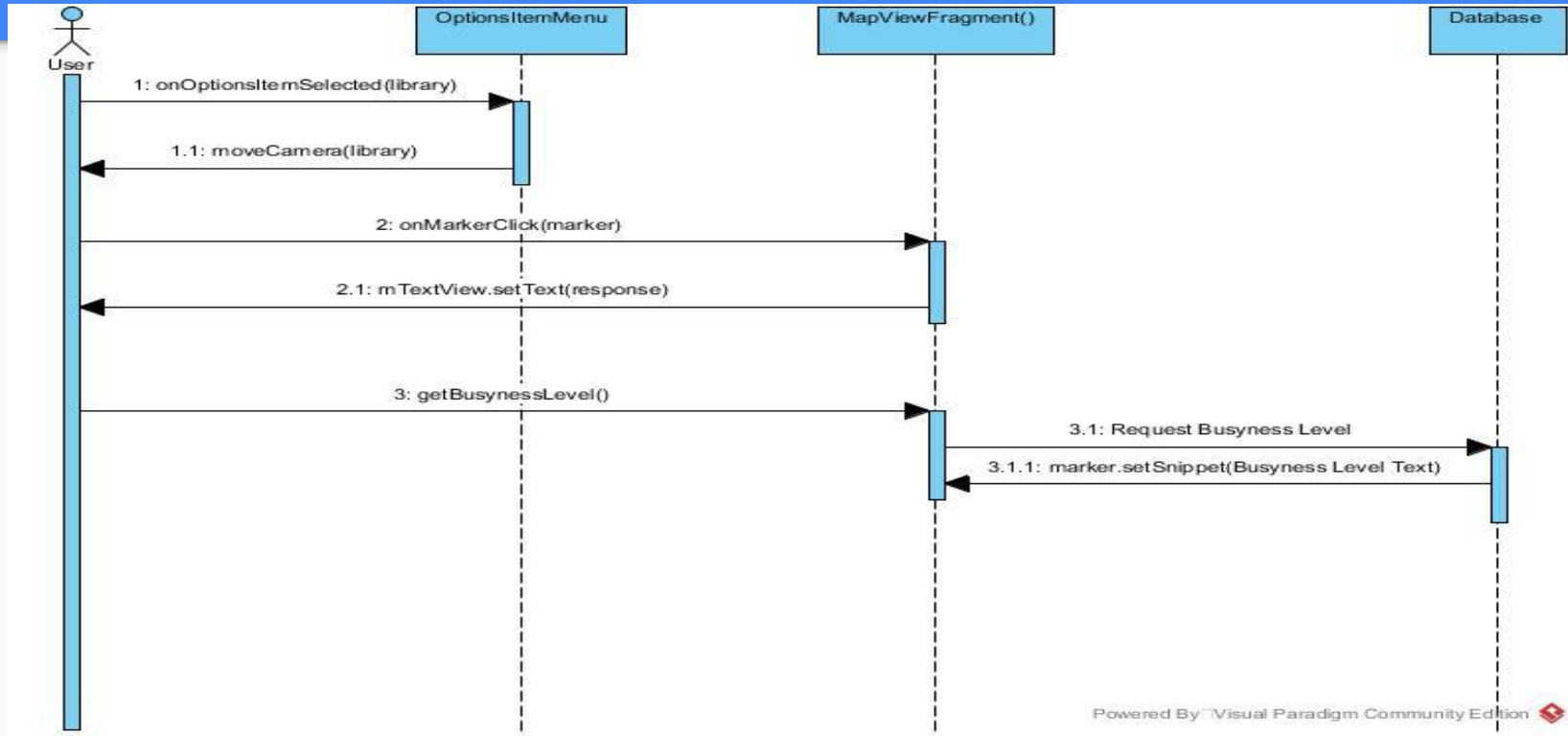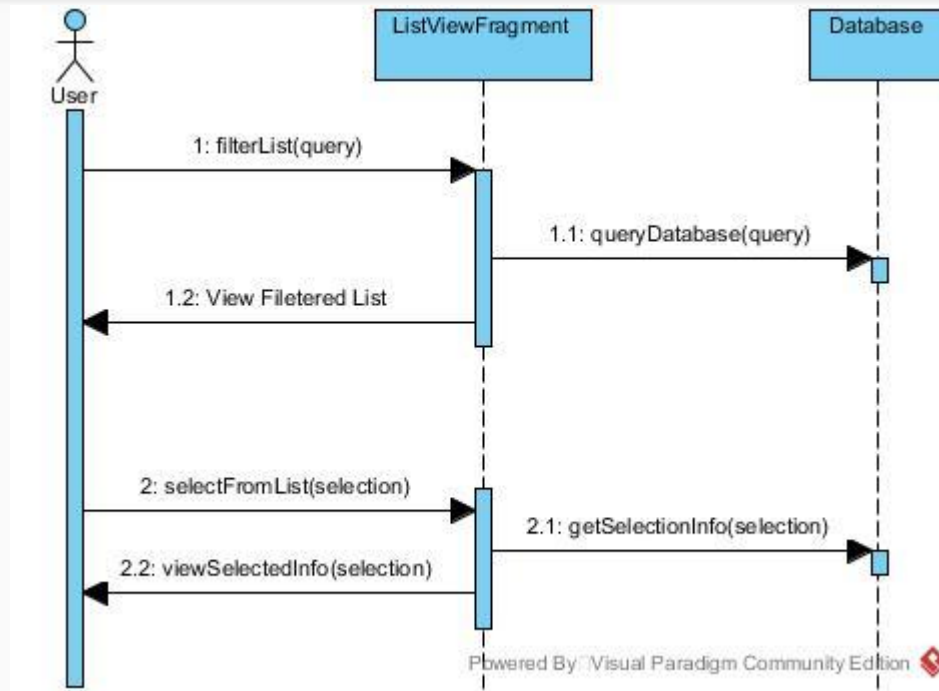## LibraryListFragment

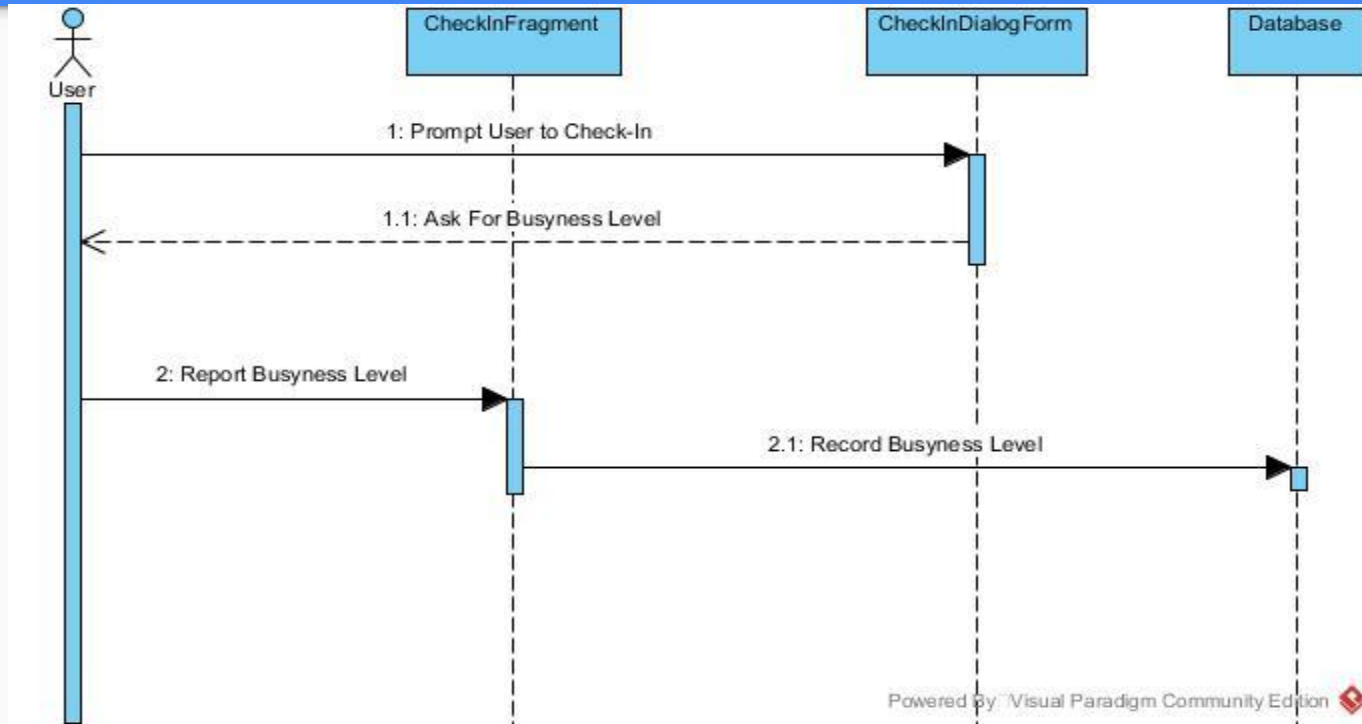+refreshLibraryData()

Sequence Diagram(s) | Main Screen

Sequence Diagram(s) | Map View

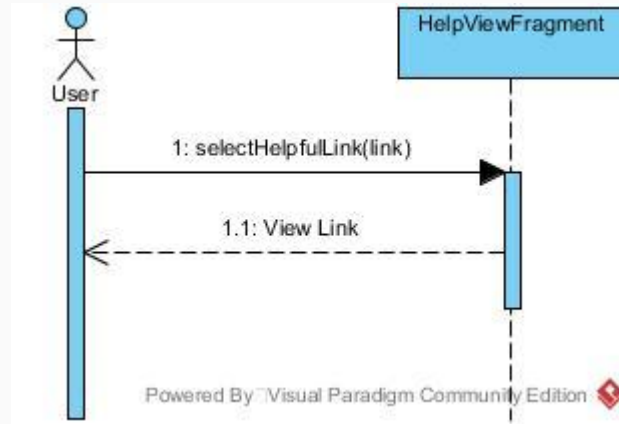# Sequence Diagram(s) | List View

Sequence Diagram(s) | Check-in Fragment

Sequence Diagram(s) | Links Fragment

Priorities: Possible

Unchanged

- Access library resource hub

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Priorities: Future

Unchanged

- Social Media
- Integration of more advanced technology
  - Library data tracking technology
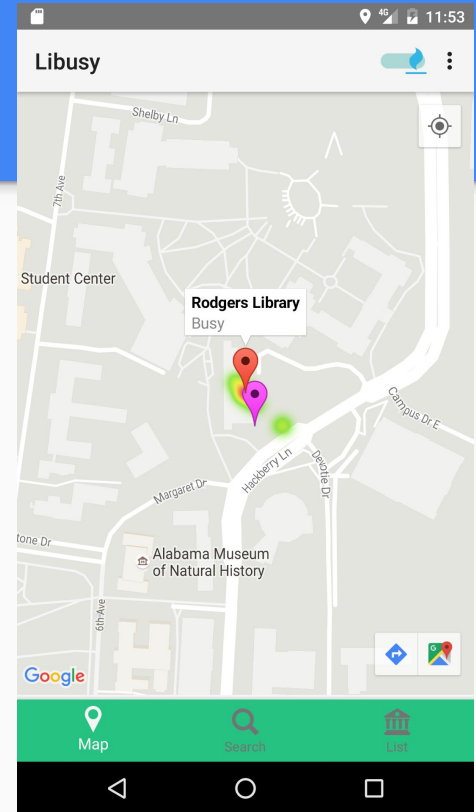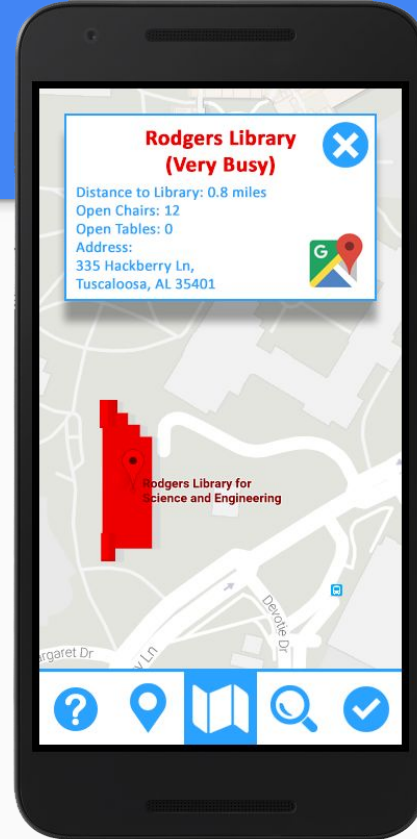 - Cameras
  - Thermal Imaging
- Verified Users
- Rewards

Priorities: Required

Unchanged
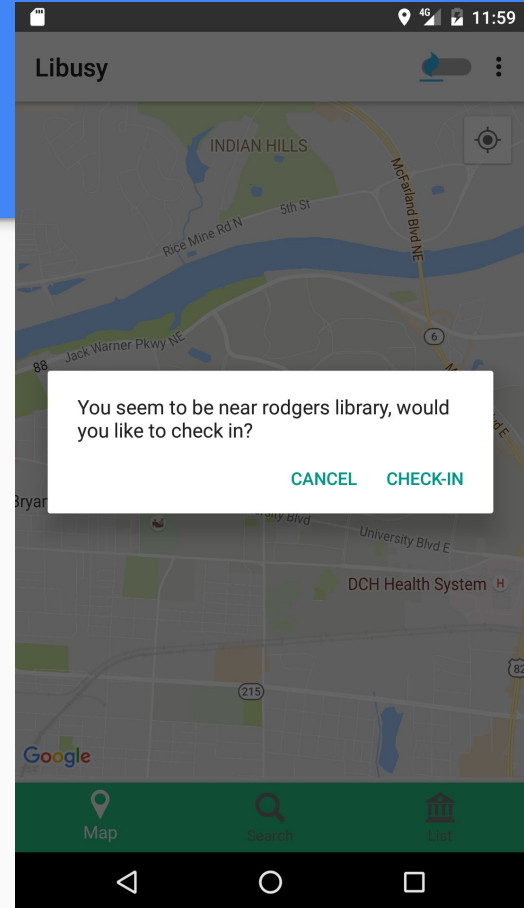- Map Interface
- Advanced "find a library search"

Potential Changes

- Individual library details
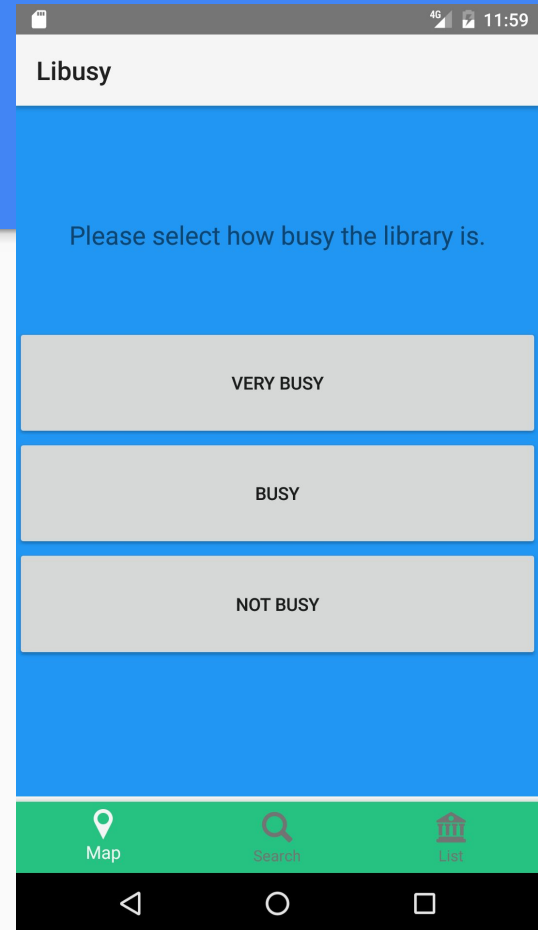- Check in
- Mark available
- Added Heatmap

Check-In Dialog

- Check-In dialog is location aware
- Can check in if within 50 meters

Check-In Screen

- Check-In dialog brings user here
- Busyness reported to database
  - Used in overall library busyness computation
- After reporting busyness, user returned to map
- Plan on color coding options

Discussion/ Questions?

- Overall project discussion to date