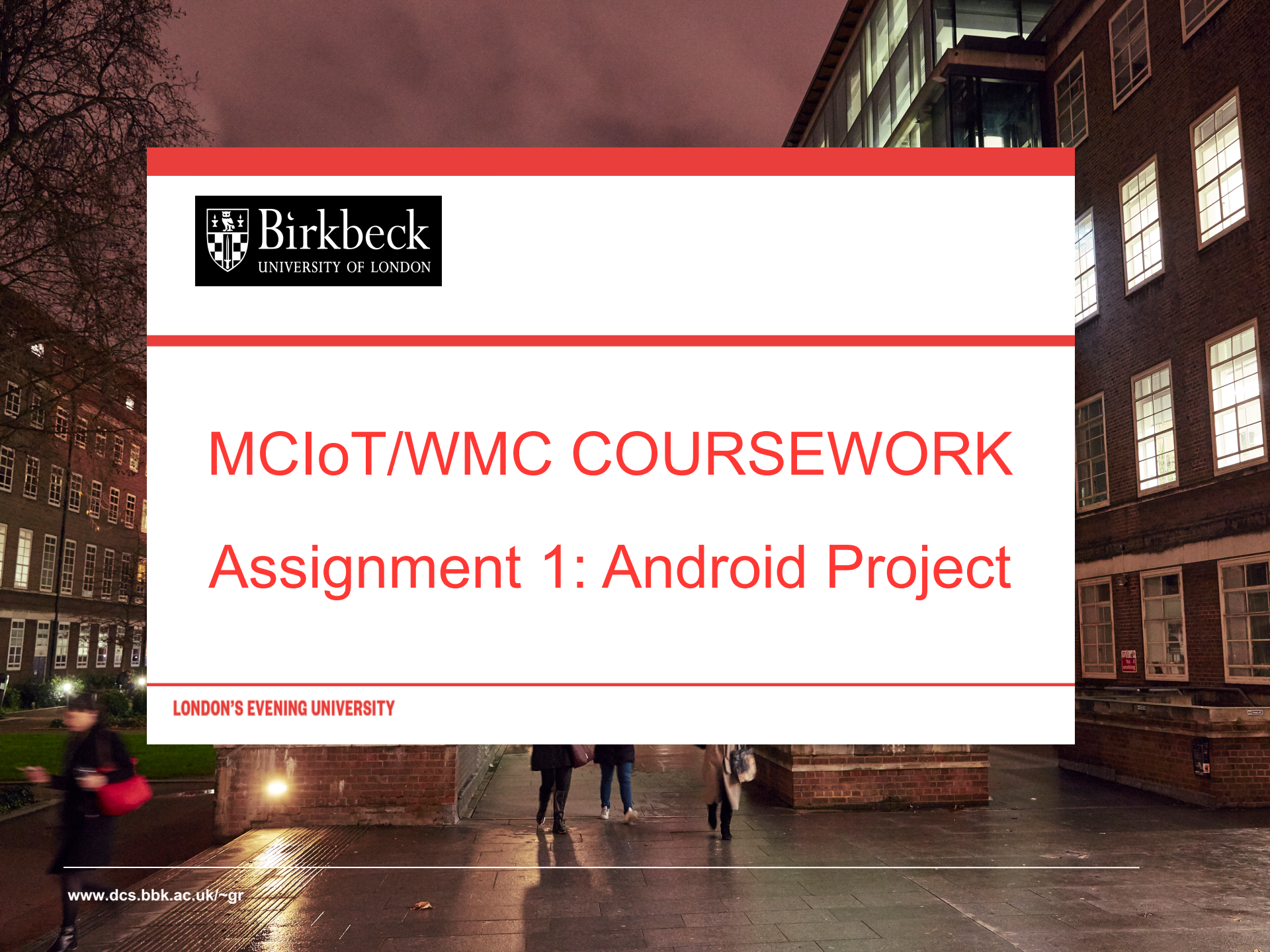

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MCIoT/WMC COURSEWORK

Assignment 1: Android Project

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App Spec

- **Goal:** Create a data collection app for the volunteers of Archelon, The Sea Turtle Protection Society of Greece
- The app will be used for the so-called morning survey, where beaches are surveyed for new nests and existing nests are monitored for hatching and predation – a wireframe design is provided
- An UI to support data entry as above will be developed
  - (MCIoT Only) Atom UI, a template kit is provided for a consistent design **must** be used
- The app **must** implement one of the two following system components:
  - *either* connect to the Archelon REST API for user authentication and survey data upload
  - *or* local persistent storage for survey data
- The app **must** employ the Android architecture from Week 5
- You **must** select at least *one UI sequence* and *one system feature* for implementation

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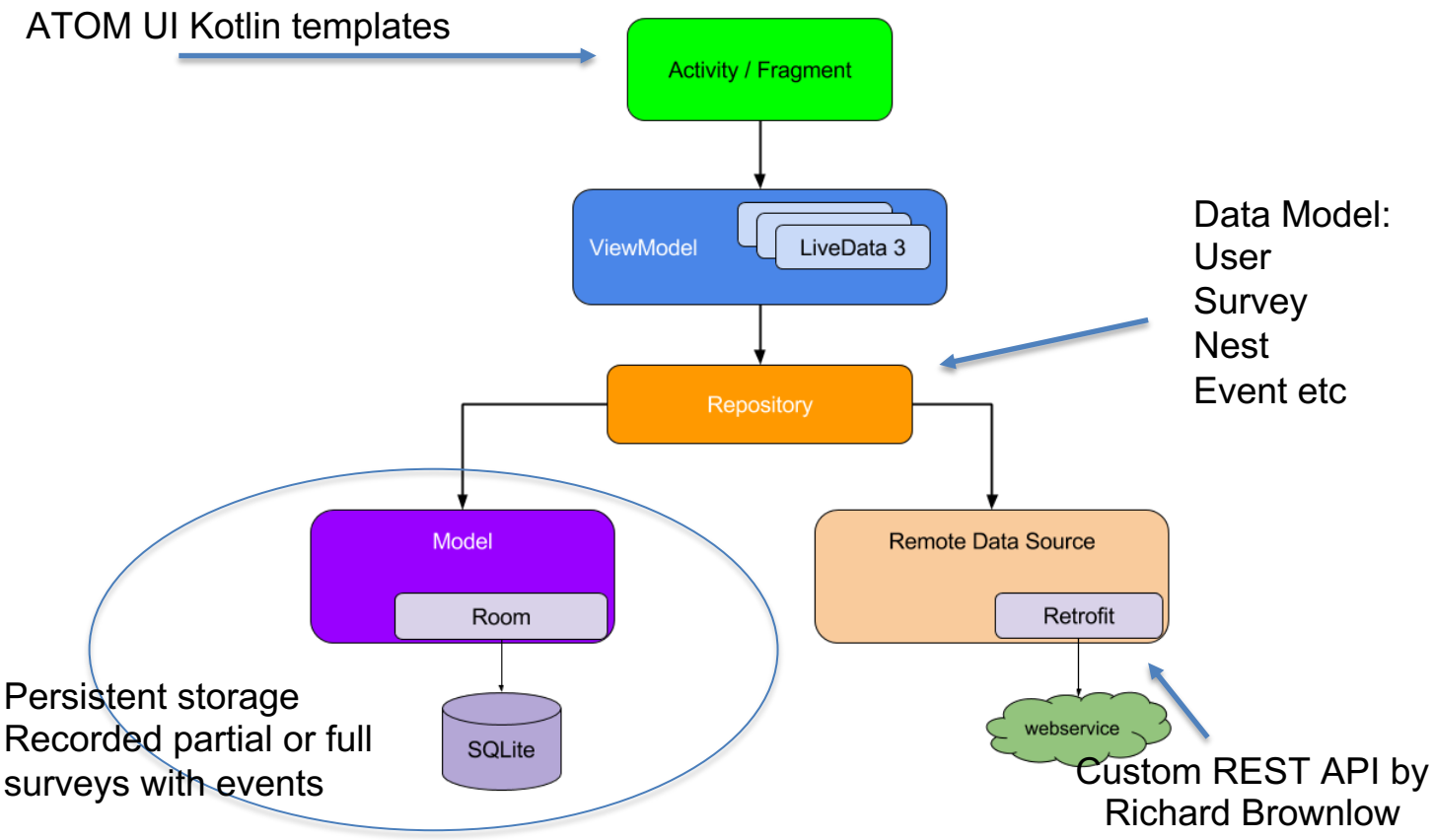
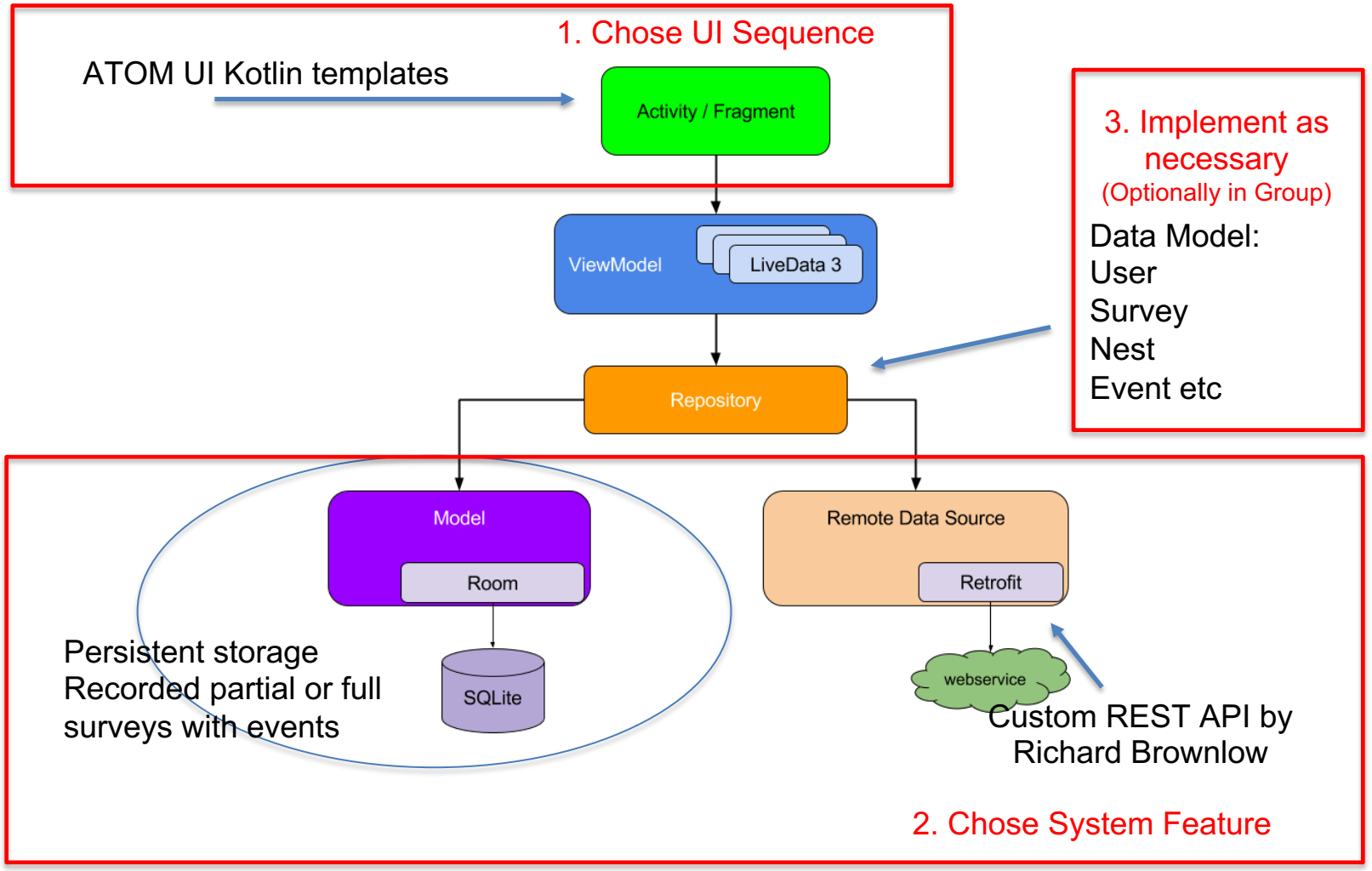
Architecture Components

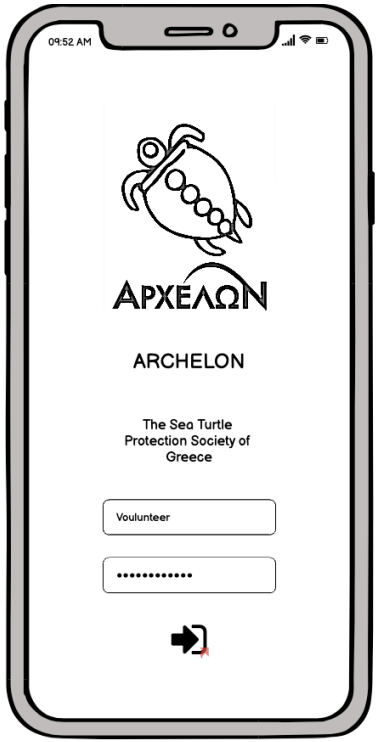


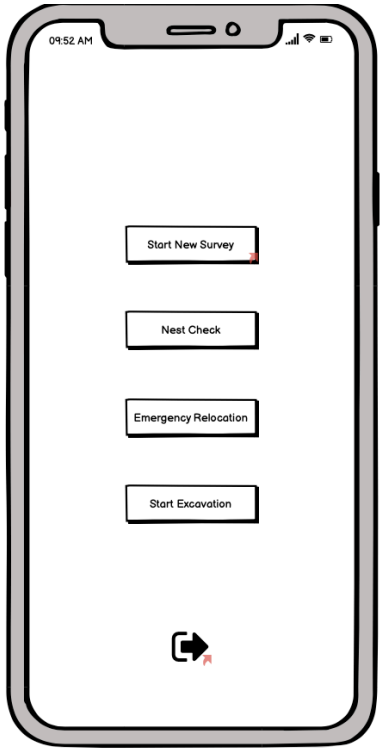
Architecture Components



https://developer.android.com/jetpack/guide#recommended-app-arch

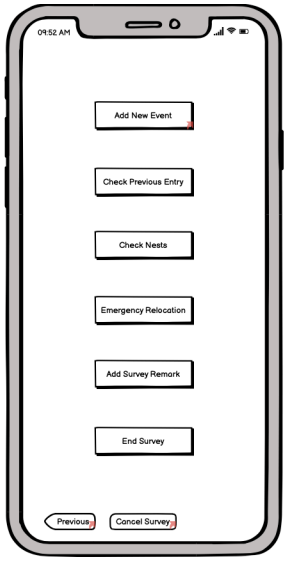
UI Design

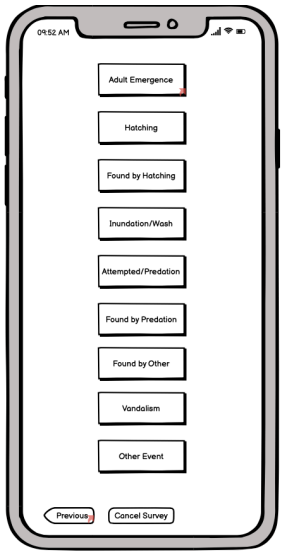




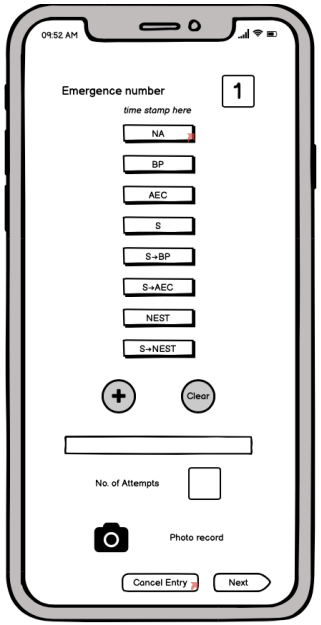
To view the full design go to
https://share.balsamiq.com/ps/vm9tccX64sQF7wLc2QfS7H?r=332C&f=N4IgUiBcCMA0IDkpxAYWfAMhkAhHAsjgFo4DSUA2gLoC%2BQA%3D

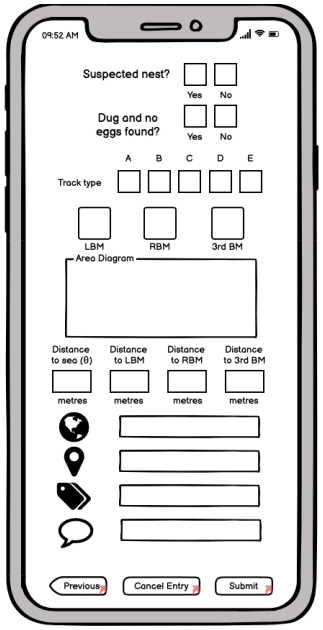
Morning Survey

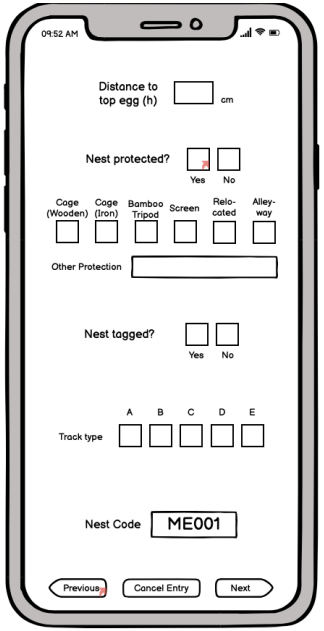


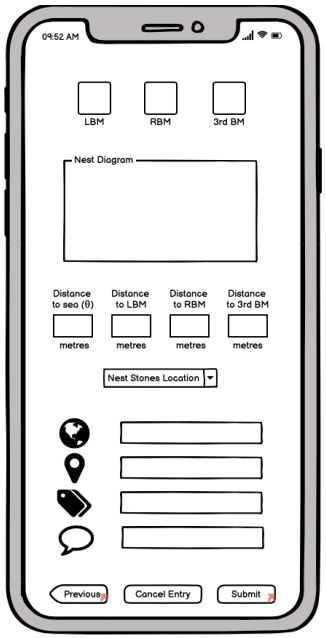


Emergence: Nest









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UI sequences

- Select from the UI mock-up on balsamiq
- In addition to the sequence in the previous slides additional options include:
  - Emergence: Relocation
  - Inundation or Wash
  - Predation
  - Vandalism
  - Hatching
  - Found by Hatching
  - Other
- Also, morning survey data set management on persistent storage (not demonstrated in balsamiq mock-up)

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REST Backend

- Implemented by Richard Brownlow
- Django on AWS
- Running on EC2 and RDS/postgres
- Postman documentation of API
- Personal account will be created and emailed
- Access by end of day November 13

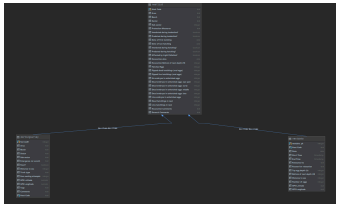
System view

Volunteer app:
Collect and manage
morning survey data

REST

Custom AWS Backend:
RDS (postgres)
EC2 instance with
Django app

Monitoring supervisor
dashboard:
Aggregate annual data
Reporting and research



schema design:
Morning survey and
nestdata tables

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Additional Rules

- You **must** unit test your code
- You **must** use your module github repository for source code management (throughout development i.e. not just upload your final code once at the end)
- You **can** use other people's code
  - you can choose to include open source/sample code
  - if so, you need to acknowledge every reused bit
  - you need to respect the license under which it was provided
- **BUT** you are marked only on your own work

- Marks awarded for properly commenting your code

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MCIoT students only

- You **should** use:
  - Circle CI or Travis CI for automated testing

- For extra points:
  - Implement additional UI elements or system features

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What to submit

- Each student has to submit individually
- Submission
  - Source code on github
  - Zip file on moodle
- Zip file **must** contain:
  - the packaged app i.e. an already created and signed apk
  - a license file (open source compliant)
  - a readme.txt file with comments
  - 5 screenshots from your app

Deadlines

- Submission deadline :
  1pm on Monday 11 January 2021
- Cut-off date for submissions:
  1pm Monday 25 January (no credit after this date)
- Penalty for late submission:
  - Up to 7 days after deadline(i.e. by 1pm on Monday 18 January):
    - Mark Reduction by 10%
  - Between 8 days and cut-off date max credit given at the pass mark (for your programme)
    - max 50 marks credit for MSc students
    - max 40 marks credit for BSc students

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WMC Marking Scheme

- UI sequence of your choice. (35 marks)
- System feature of your choice (REST or persistence). (30 marks)
- Repository data model. (15 marks)
- Unit tests implemented. (10 marks)
- Overall code quality and commenting. (10 marks)
- All deliverables submitted to Moodle and GitHub according to specification complete and comprehensive. (10 marks)

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MCIoT Marking Scheme

- UI sequence of your choice. (35 marks)
- System feature of your choice (REST or persistence). (30 marks)
- Repository data model. (10 marks)
- Unit tests implemented. (5 marks)
- CI integration is completed with Circle CI or Travis CI. (5 marks)
- Overall code quality and commenting. (10 marks)
- All deliverables submitted to Moodle and GitHub according to specification complete and comprehensive. (5 marks)