GoMe

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http://sddec19-03.sd.ece.iastate.edu/

Market Survey

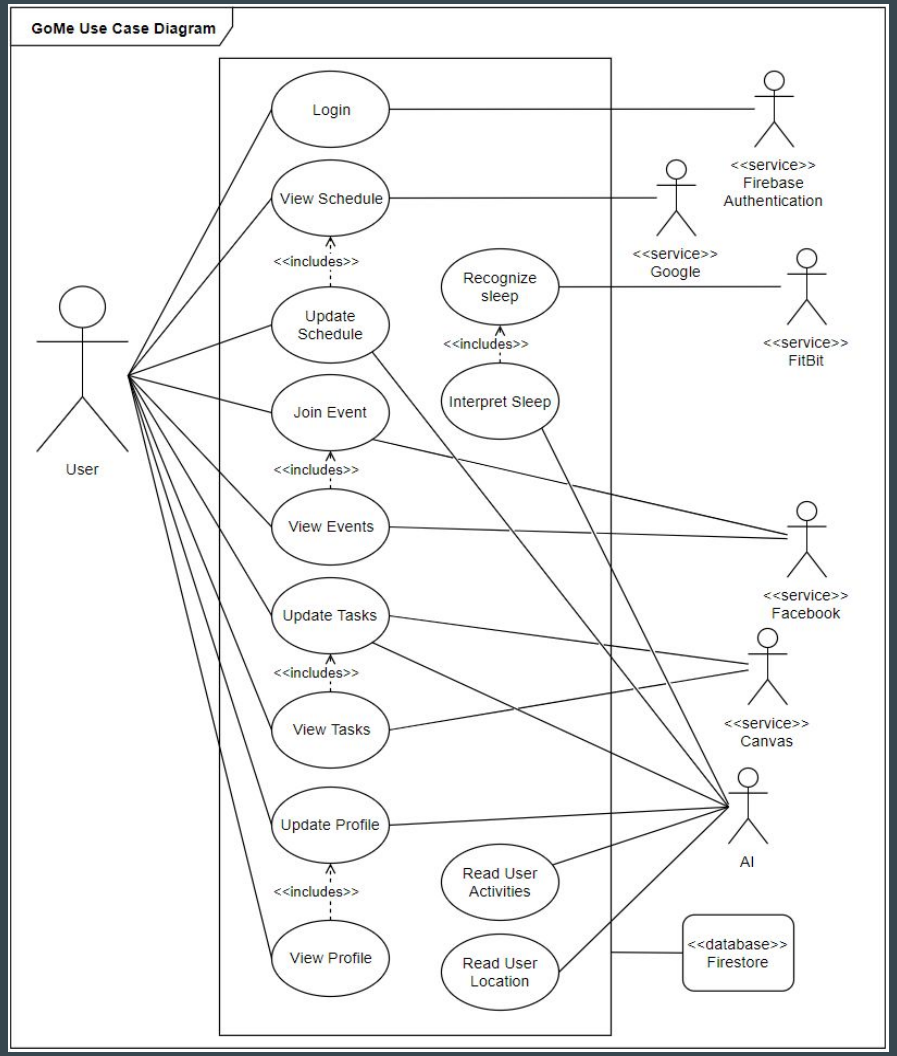
Current Scheduling Applications

- Static
- Difficult to use
- Boring

Our Implementation

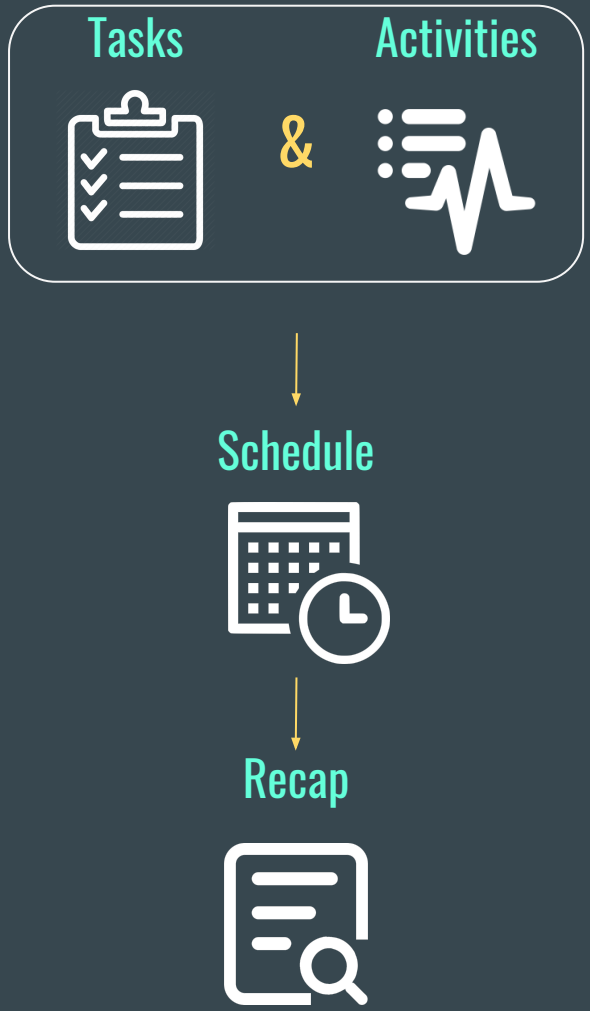
- Dynamic
- “Personal Assistant” concept
- Motivating

Conceptual Sketch

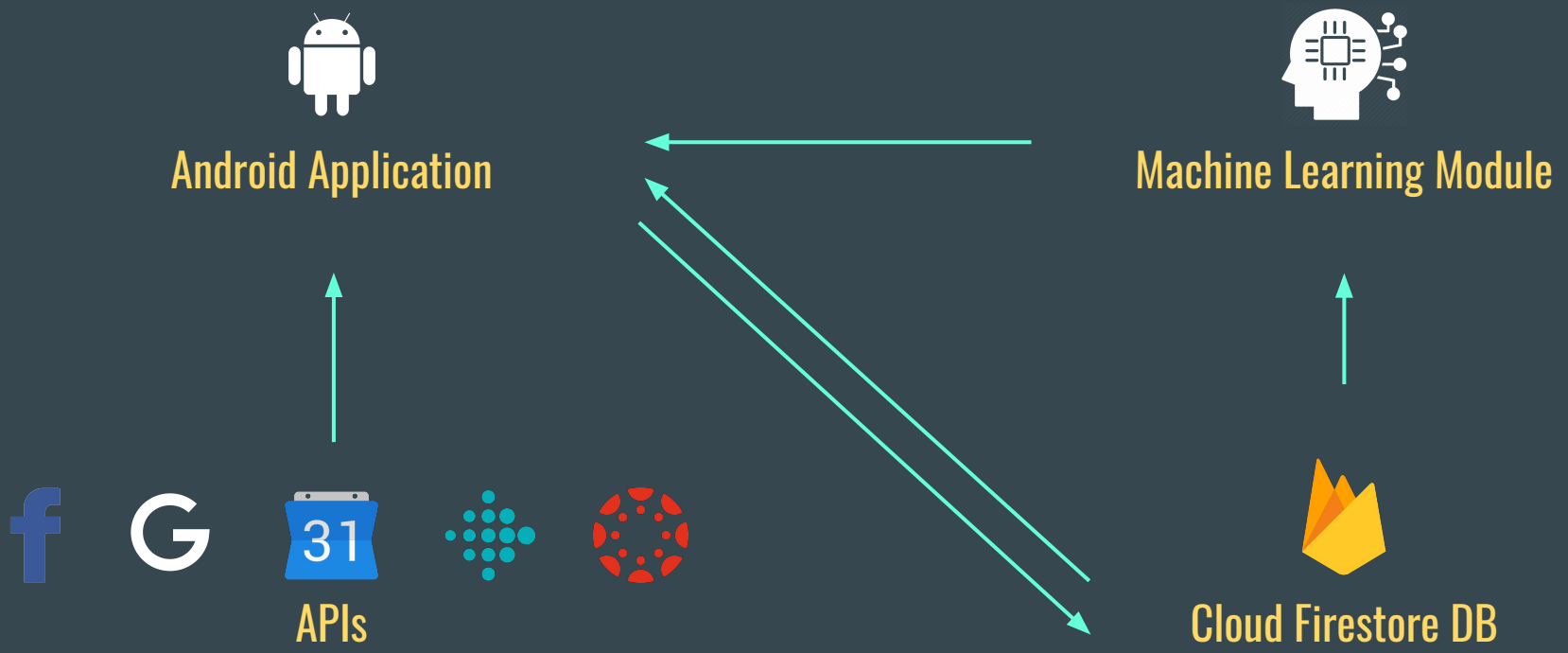


Detailed Design & Major Features

- User's day consists of blocks of time
  - Activities
  - Tasks
  - Free Time
  - Sleep
- Blocks of time create a schedule
- Schedule generates feedback for user
  - Time usage
  - Productivity
  - Advice and recommendations



Functional Decomposition



Technology Platforms Used

Android Studio

Google Firebase

TensorFlow

Numerous APIs

Resource/Cost Estimate

- Very low cost
- APIs are free to use
- Server/Database usage free right now

Functional & Non Functional Requirements

Functional

- Creates a schedule for the user to follow.
- Allows user to add events to their schedule.
- Allows the user to share their schedule/events with friends.
- Predicts users ideal sleep time based on prior sleep data.
- Adjusts schedule based on deviations.

Non Functional

- User should not be able to see other user's schedules, unless it is shared with them.
- The login process should take under 15 seconds.
- System should scale easily.
- The ML model should predict sleep & work patterns with an accuracy of at least 80%

Constraints & Potential Risks

Technical Considerations

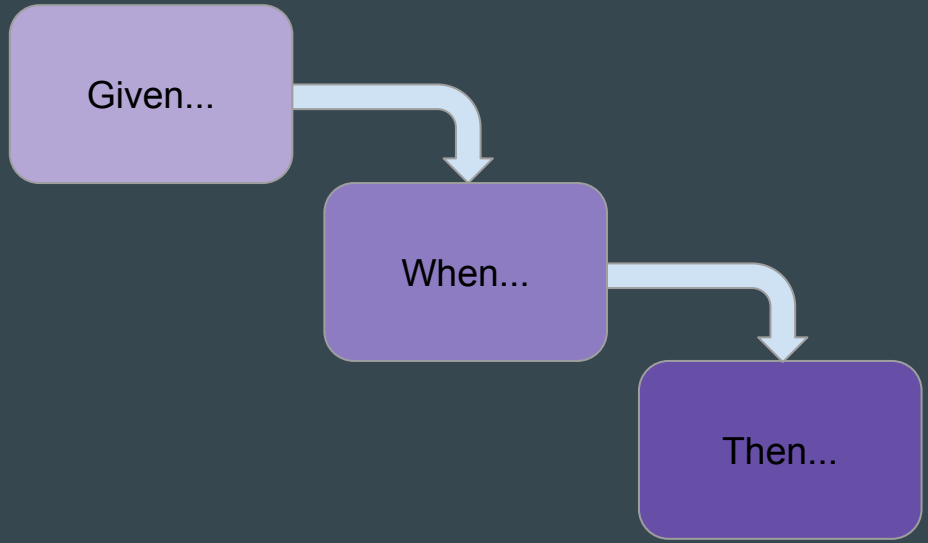
Timely Responses

Machine Learning Data

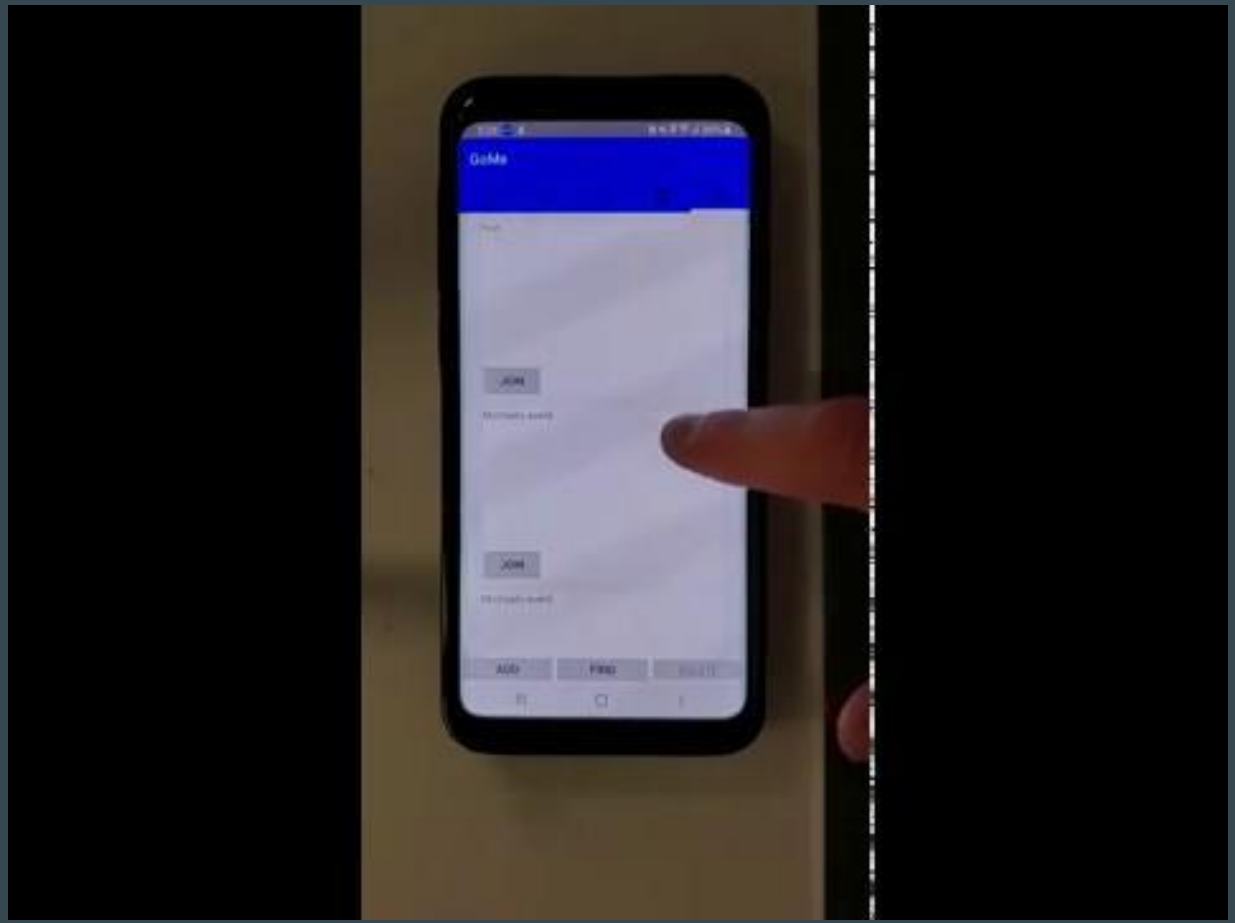
Privacy Assurance

Test Plan

- Functional Testing
  - Unit Testing
  - Integration Testing
  - System Testing
  - Acceptance Testing
- Non-functional Testing
  - Performance Testing
  - Security Testing
  - Usability Testing
  - Compatibility Testing
- Given/When/Then Scenario Testing



Prototype Demo



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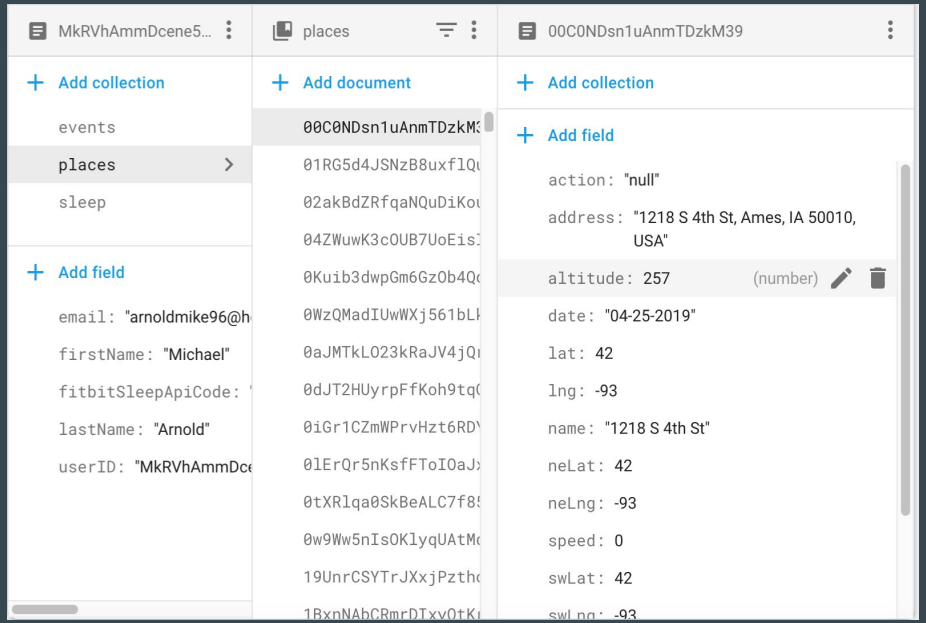
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Contributions of Subgroups

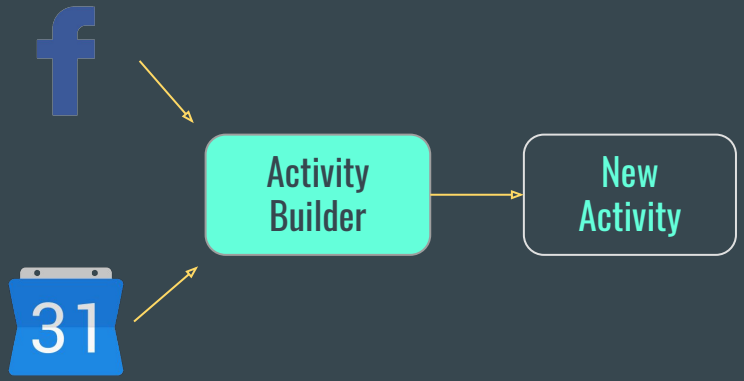
Database/System Design
Data Analytics
Machine Learning

Google Firebase - Cloud Firestore

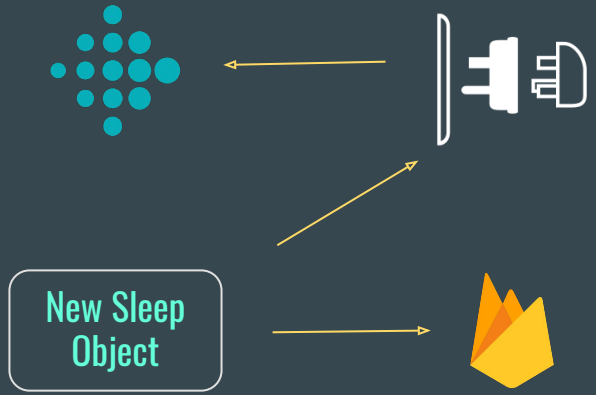
- Secure
- Intuitive
- Scalable
- Real-Time
- Free
- Google

Design Patterns - Object Oriented

Builder Pattern



Adapter Pattern



Data Analytics

- Collecting data from external sources
- Converting data to be used for Machine Learning algorithms

Future Tasks:

- User testing and analysis
- Finalizing how data collected affects user's schedule
- Optimizing performance of application

TensorFlow

- Using Tensorflow via Keras API
- Create model of specific attributes of our data to predict future events
  - Use sleep data to predict estimated wake up time.
  - Use time at work to schedule possible events after work.
  - Use these two predicted values to schedule rest of day.
  - Update schedule in case of a change.

Project Milestones & Schedule

1	Develop the requirements 
2	Develop a mock application 
3	Develop fully functioning application
4	Obtain feedback and create final version

Plan for Next Semester

- Use ML models to start optimizing schedules
- Parameterizing of Events in Schedule
- Complete implementation of external APIs
- Finalize UI design
- Add social aspects of application
- Testing

Questions?