Mobile and Web Timecard App

SDMAY18-14

Client
Genova Technologies

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Overview

- Genova lost compatibility to their custom timecard system when they upgraded their previous software
- We set out to recreate their timecard on mobile and web platforms that integrate with their current software
- The new timecard is designed for use by Genova employees and administrators to simplify record keeping for project hours

Users and Uses

- The end users for this product will be the employees of Genova Technologies, and potentially the employees of any companies Genova sells the software to.
- The mobile and web time card application must provide easy and user-friendly experiences while allowing the Genova employees to quickly and efficiently track their time spent on different projects.
  - Additionally, it must provide a simple way for the administrators to login to the application for review and approval of timecards.
  - If a timecard is denied, there will be an option to add a note describing why it was denied, and the timecard will go back to the employee to be changed and resubmitted.
  - Once timecards are approved, the data must be exported to the compatible accounting software so Genova's customers can be properly billed for their time.

Requirements

Functional

- Time card software that works on iOS, Android, and web
- Software can integrate with existing accounting systems (Dynamics) at Genova
- Employee, Manager, Admin user levels
- Time card periods of 1-week, 2-week, 1-month, etc…
- Change start/end date of timecard
- Display relevant information to user about time card
- Past time card summaries for Employee
- Team/Department/Company time summaries for Managers

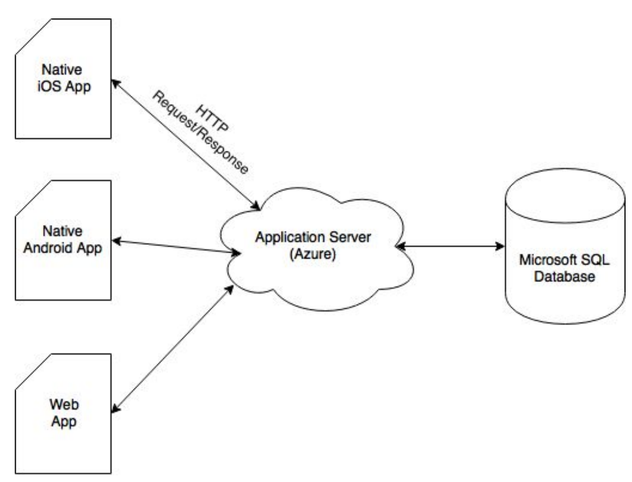
Non-Functional

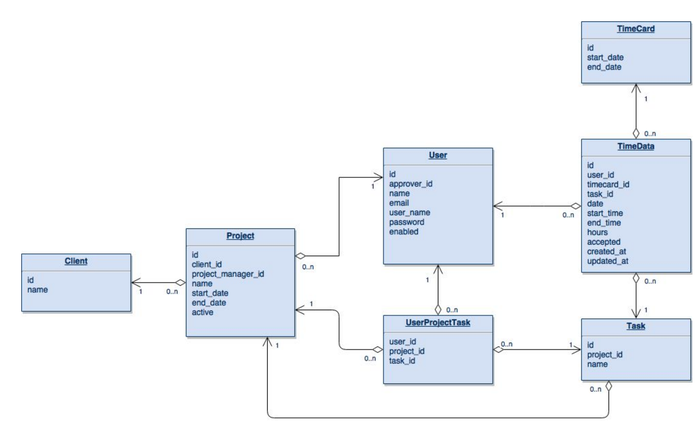
- Interactions should be simple, secure, and scalable
- User experience should be similar on all 3 platforms

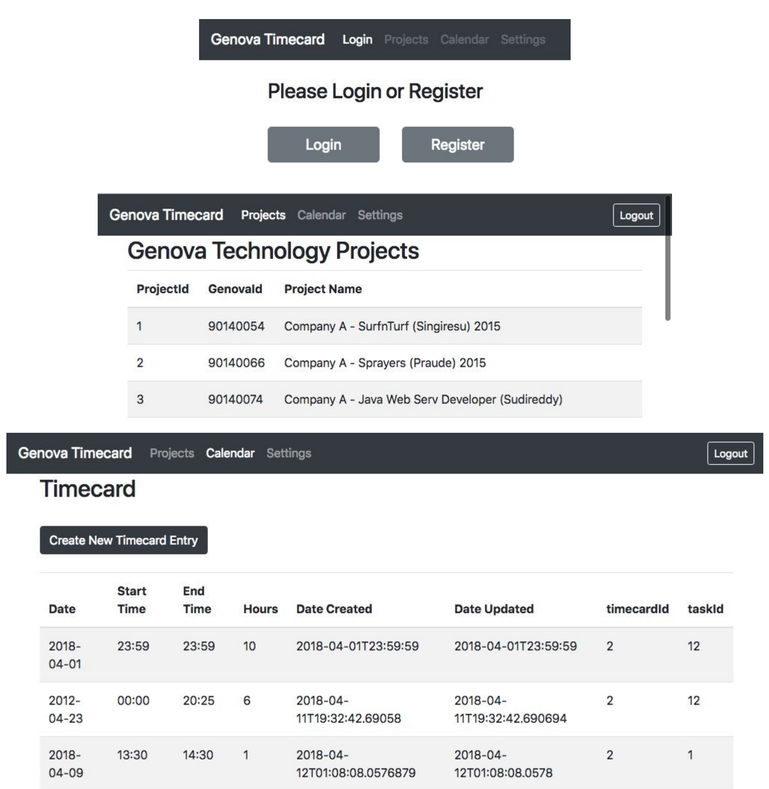
Operating Environment - Operate for Genova's internal use, possible internal use of companies Genova sells this application to.

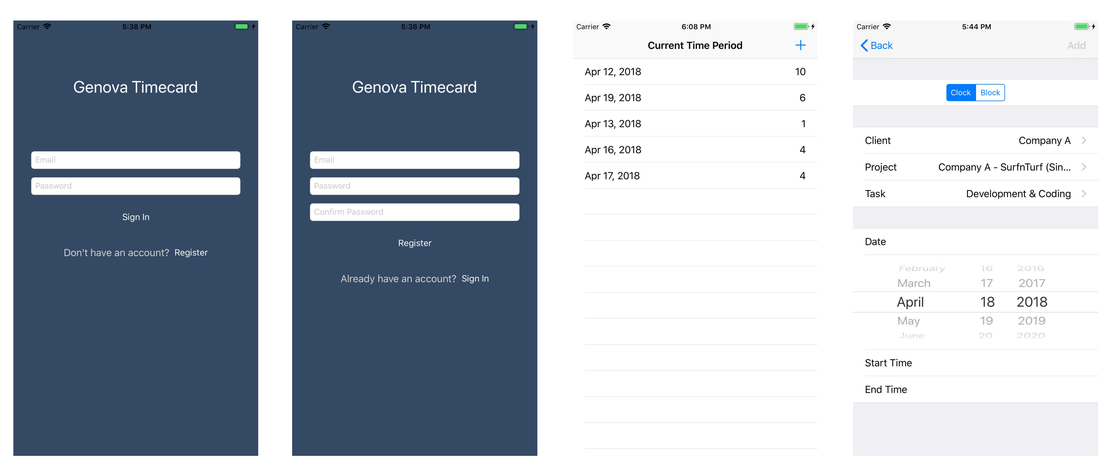
IEEE Standards

- 730-2014: IEEE Standard for Software Quality Assurance Processes
- 1633-2016: IEEE Recommended Practice on Software Reliability
- 12207-2017: ISO/IEC/IEEE Drafter International Standard - System and Software Engineering -- Software Life Cycle Processes









Technical details

Java was used for Android development on Android Studio. Swift was used for iOS development. Javascript and Angular were used for website development. C# was utilized for communications to the server. The database is hosted on Microsoft's Azure.

Testing

Black box testing was used for the database during development of Android, iOS, and web applications. For database testing, mocks of the client systems were used to verify proper functionality.