Improving an Existing e-planner for Access on iPhone, iPad and Android Smartphones

The client is a leading publisher of student planners in Australia with over 25 years of experience in designing and publishing time management resources. The client has partnered with more than 1100 schools in the country.

The Vision

The traditional means of communication that rely on documentation among all the stakeholders in the schools – students, teachers, and parents – have long needed an overhaul. It is extremely important to keep a three-way communication going between teachers, students and parents. The traditional processes to achieve this are time-consuming and sometimes require impractical amounts of documentation on part of the teachers. Students have also found it tough to manage their assignments and timetables, especially when absent for a few days. The requirements of the project also spoke of similar pain points.

In order to solve these pain points, the client wanted to develop an e-planner application for all the three stakeholders. Using this app, teachers would create and manage their own class groups, notify students of upcoming events, allocate homework and assignments, provide instructions and supporting materials, mark important assignments and more importantly share important messages with the parents.

The app was envisaged to be a boon for students who can customize their own schedule, receive homework, assignments and notes, assign different priorities to different tasks, manage their workload and track their progress. For the parents, it would offer a convenient way to access their child's personalized diary, view and monitor their children's schedule, receive updates, notifications and homework reports from school. They could also communicate with other students using this platform.

Application Overview

The client had developed this application before but he was not satisfied with the results. The original app lacked the required functionalities and did not align with his business needs seamlessly.

The original app had the following problems:

- The app used to hang a lot.
- It used to crash frequently.

- The code did not follow the correct MVC architecture.
- Redundant code increased maintenance time.
- The original app was built only for iOS 6 compatibility.
- The Android and iOS UI was not upto the mark.
- There were a number of bugs in the application.
- Multiple source code bases for different resolutions of different platforms,
- No feedback mechanism.
- Analytics tool was not implemented properly.

The client wanted to improve the application in order to bring out all the features envisaged in the app originally.

Technologies and Tools:

Android:

- Application compatible for Android 2.3.6 and above
- Eclipse and Android SDK Framework
- Java Language
- SQLite Database

iOS:

- Application Compatible for iOS 6.0 and above
- XCode Framework
- Objective C Language
- Core Data – SQLite Database

Challenges and Solutions

As part of the engagement, the project team at e-Zest decided to follow a four-pronged approach. The team would first improve the coding and follow the correct MVC architecture. Since the app was web service based, lots of the performance issues stemmed from there. The team also decided to optimize the web-services. The original application used multiple code-bases for similar functionalities which offered multiple opportunities for e-Zest to prove their technical prowess. At the final step, the UI changes were tackled.

The team used native components and stayed away from third party components as much as possible. An API was also made available for executing asynchronous tasks so that the UI is not frozen and is accessible to the users at all times. To track the usage patterns, session maintenance, feedback and analytics, the team also employed Flurry SDK, after consultation with the client.

Solution Architecture

The following solution architecture was implemented in the project
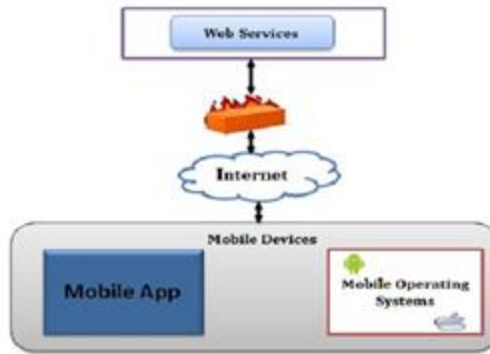
Technical Breakthroughs

- The team decided that a single source code base for each platform would cover all the resolutions.
- Managing the look and feel of UI across iOS and Android devices was handled very effectively resulting in a consistent user experience across multiple devices.
- The team also made sure that the analytics tools were integrated properly with the app.

Business Benefits

Students can personalize calendars and subject timetables using the app. Teachers, students and parents can communicate with each other directly, and receive accurate, up to date information about homework, assignments and other important information. Thus, it also saves valuable time which can be used for better value creation by all the stakeholders. The messaging is fast and secure and the app is accessible from any device. Since the improved version of the app has hit the market, the client has witnessed a revenue boost of about 35% from its previous numbers. The project was able to meet the timelines set by the client, fulfilling all business needs successfully.

Bottom Line

The app can work without an internet connection so it can be used during a network downtime and the data gets automatically synced up when a network is available. The solution also eased the process of application updates. The innovative approach that was taken by e-Zest to understand the requirements and design an efficient solution was met with appreciation.