

Abhishek Bansal

Staff Engineer, Android, Polyglot

Projects Portfolio



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Lead Android Developer, DoctorPlan

since Sept, 2018

- DoctorPlan- Precision Healthcare
- DP Pro for Doctors



DoctorPlan- Precision Care (Sept 2018-Till Now)

About App

DoctorPlan- Precision Care is patient facing app for DoctorPlan users. This app acts as a personalized, intelligent digital diary for patients. It allows patients manage their treatment plan, stay informed and up to date on their health condition. Salient features

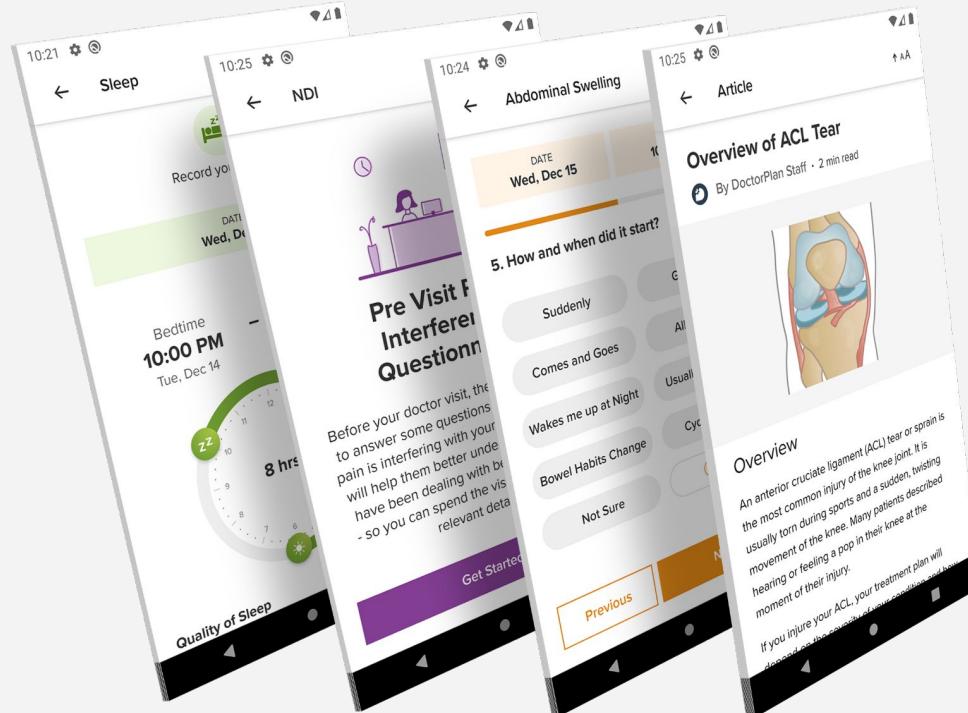
1. Symptoms, Vitals and Lifestyle tracking
2. Personalized Patient Education and Care Plans
3. Patient reported outcomes

Domain

Healthcare

Contribution

1. Lead app development from scratch with a team of two.
2. Designed and implemented various features and libraries.
3. 100% Kotlin, Fully modularized codebase with over 75 gradle modules and over 100k Locs.
4. Started with RxJava2, GSON, and Synthetics then took refactoring initiatives to move to CoRoutines, Flow, Moshi and ViewBinding
5. CI/CD setup with Jenkins and then Github Actions



Libraries and Technologies

- AAC- ViewModel, LiveData, Navigation
- MVVM, Repository
- HTTP Caching
- Retrofit
- CoRoutines
- Koin
- Moshi, Glide, Exoplayer
- Mockk

Dev Tools

- Android Studio, VS Code
- Postman
- Git, GitHub
- Crashlytics





DP Pro for Doctors (Dec 2019-Till Now)

About App

DP Pro- for Doctors is provider facing app for DoctorPlan users. This app allows doctors to deliver personalised and precise health care to their patients while saving on time and efforts.

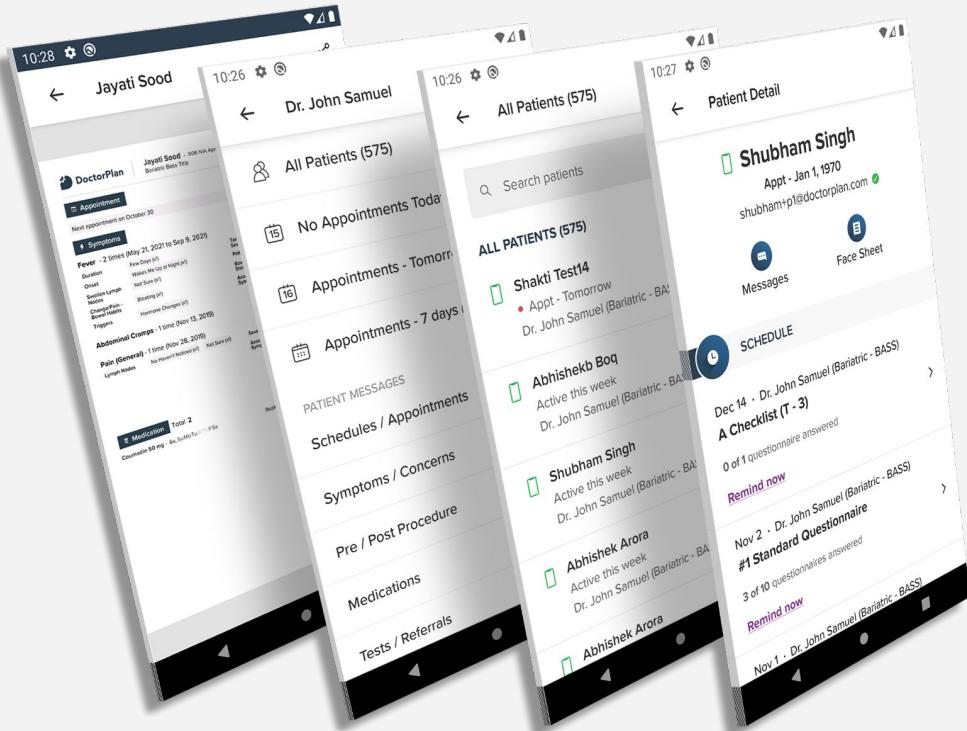
1. See patient list and compliance status
2. Send messages, respond to queries
3. See upcoming appointments, send reminders and questionnaires.
4. Edit and copy chart-notes

Domain

Healthcare

Contribution

1. Lead app development from scratch with a team of two.
2. Designed and implemented various features and libraries.
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Libraries and Technologies

- AAC- ViewModel, LiveData, Navigation
- MVVM, Repository
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Dev Tools

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- Git, GitHub
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Android and Design Lead, moldedbits

April 2016 - Aug 2018

- Fuel Finder for ExxonMobile (Aus.)
- Hue Power India Phase 1 & 2
- Argus- Onboarding simplified
- Android Jumpstart
- Android Client for Velocity
- Direct Energy Account Manager
- Continuous Integration & Playground

Fuel Finder(Jan 2018) for Exxon Mobil, Australia

About App

Fuel Finder is new way to fuel personal vehicles. It makes it easy to find quality gas at great prices. User can use map to search for location or destination. Fuel finder makes user aware of nearest key sites so that he can use his Fuel 1 card and save money.

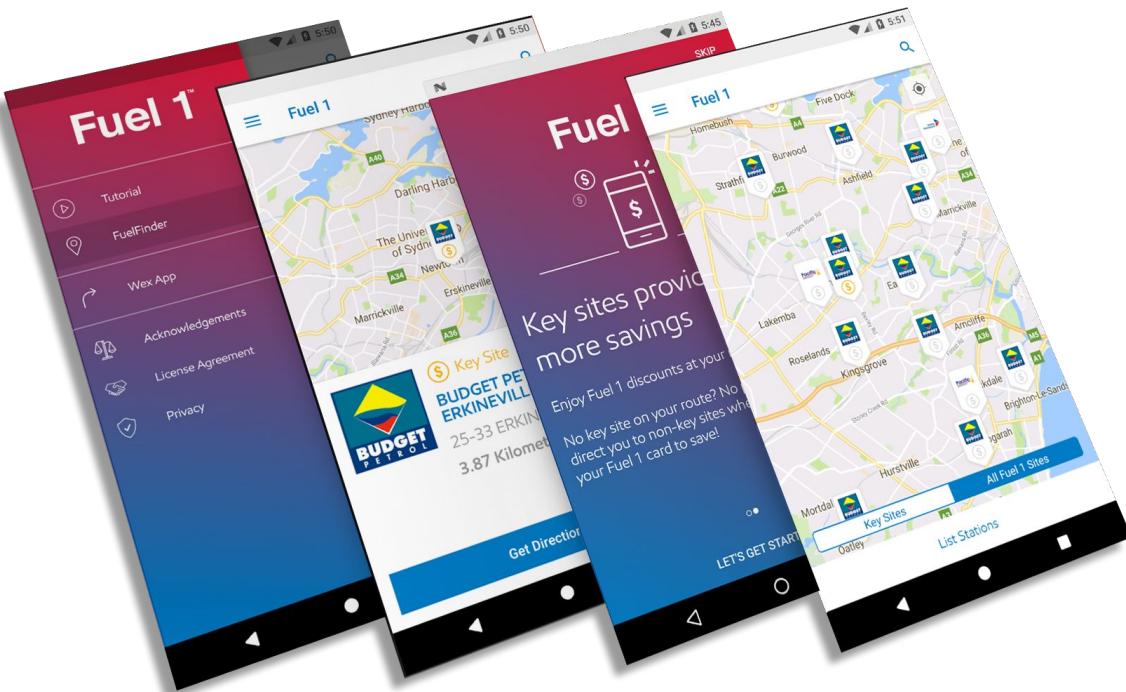
Domain

Maps and Navigation

Contribution

Senior Android Developer- Remote

1. Responsible for Architecture and complete development of Android app from scratch
2. Research, Screens Development and Bugfixes



Libraries and Technologies

- RxJava/RxJava2
- Retrolambda, Java8
- Room Database
- Retrofit, Gson
- Timber
- Butterknife, Lombok
- Support, Design Support Libraries
- Glide

Dev Tools

- Android Studio, Atom
- Postman
- Git, GitHub
- Crashlytics



Hue Power India V1(late 2016), V2(mid 2017) for Philips Lighting, India

About App

The Hue has a reset feature built in, which resets the lights to the default warm yellow on a power toggle. This has the unfortunate side effect of the bulbs lighting up in the middle of the night if there is a power failure.

Philips Lighting India wanted us to build a mobile app that would detect a power toggle, and reset the lights to their previous state in case of one, while, also having all features of standard Hue control app.

Domain

IoT, Smart Lighting

Contribution

1. Project manager for Android as well as iOS apps in both phases.
 1. Client Interaction
 2. Client site testing and debugging
2. Lead Android developer
 1. Designed and developed Power Reset feature V1 and V2
 2. Introduced RxJava and then upgraded to RxJava-2
 3. Research, Screens Development and Bugfixes



Libraries and Technologies

- RxJava/RxJava2
- Retrolambda, Java8
- Gson
- Retrofit
- Timber
- Butterknife, Lombok
- Support, Design Support Libraries
- Shell Scripting

Dev Tools

- Android Studio, Atom
- Postman
- Git, GitHub
- Crashlytics, Fabric Console





Argus (mid 2017) Open Source

About Library

Argus is a customizable and extensible open source library that allows developers to quickly integrate user on-boarding flow for Android apps, including login, signup and forgot password screens.

With in-built support for Google and Facebook login / signup, Argus makes it trivial to get up and running when starting with a new app.

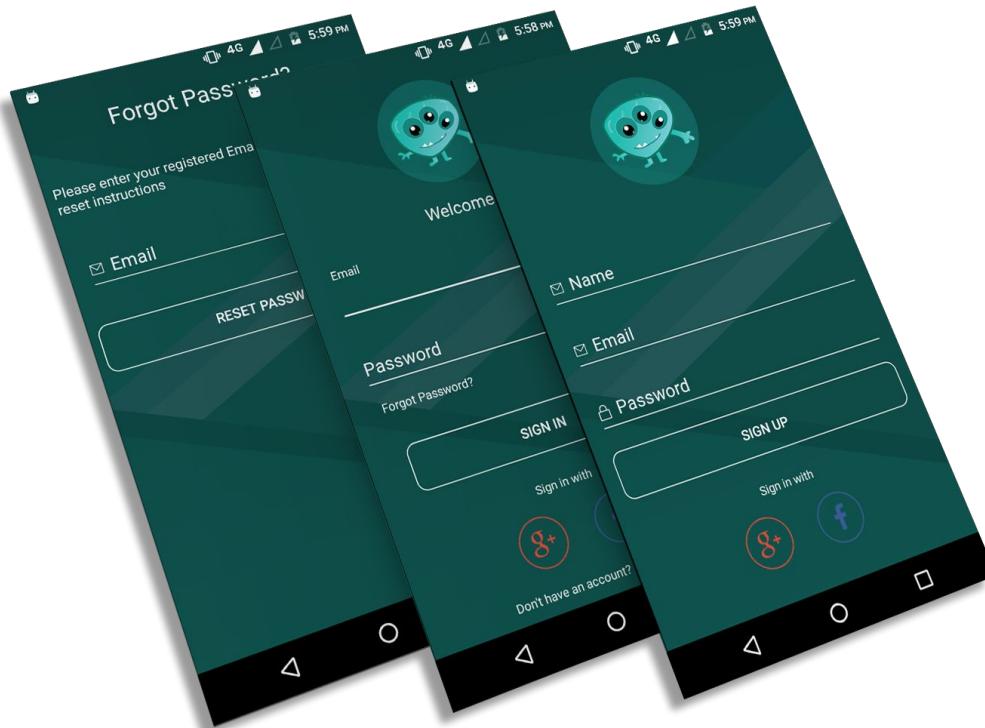
Github Url

<https://github.com/moldeubits/argus-android>

Contribution

I started leading project as soon as we decided to build it. We designed Argus in a way that its extensively customizable but yet provides most of the standard functionality out of the box. I wrote a [blog post](#) about basic usage of Argus.

I also wrote [many samples](#) and [wiki](#) demonstrating beginner to advanced level usage of this library.

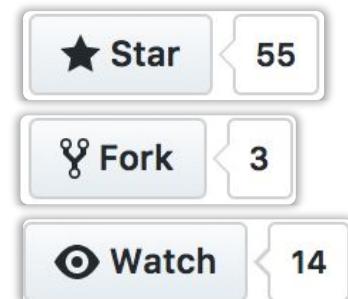


Libraries and Technologies

- SDK and Support Libraries

Dev Tools

- Android Studio
- Git, GitHub





Android Jumpstart (mid 2016 - Ongoing)

Open Source

About Project

With Android Jumpstart, we want to zero down the scaffolding time for Android apps. Most apps we work on share the same boilerplate code, including

- Declaring dependencies
- Auto-increment version code
- Setting up Retrofit for API interaction
- Setting up Dagger for dependency injection
- Setting up common utility classes
- Creating a mocking framework for testing

Jumpstart takes care of all this, and more. Jumpstart adds support for many commonly used libraries like RxJava 2.0, Retrofit, Lombok, Timber, ButterKnife

Github Url

<https://github.com/moldeedbits/android-jumpstart>

Contribution

Conceptualized and built Android Jumpstart V1, top committer and maintainer since then. Implemented a gradle script which auto increments version code and name on each release build. Integrated Jenkins-CI with pull request builder in this project.

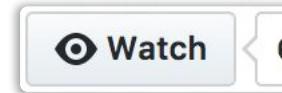
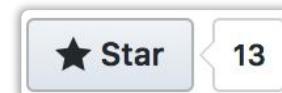
Also wrote a Python CLI utility which lets user clone and setup his project in seconds.

Libraries and Technologies

- SDK and Support Libraries
- RxJava2
- Timber
- Lombok
- Butterknife
- Retrofit
- Python

Dev Tools

- Android Studio
- Git, GitHub
- Jenkins





Knomatic, Houston (mid 2016)

Team Augmentation

About Knomatic

Knomatic mobile solutions allow companies to increase efficiency, transparency and accountability by extending back-end data and processes to mobile devices – even those not originally intended for the mobile world.

Requirement

Knomatic was already working their iOS app and needed Android Development capabilities when they came to moldedbits. They got a client who wanted to have Android solution as well, so need of the hour was to bring Android app up to speed with iOS.

Contribution

- I was able to understand requirements and their system architecture swiftly and jumped to development of Android app from scratch.
- I did daily sync-up meetings with clients in order to remain sync with exact client requirements while giving incremental build at end of each sprint.
- At end of 2.5 months Knomatic had a beautiful Android app which worked flawlessly on Phones and Tablets.

We partnered with Molded Bits to build our first release of our Android product offering. We had a short time window to turn around and release the product to our customers. There was concern amongst the team if the goal was even realistic, given the ramp up time required for any new vendor. When we met with Molded Bits, they filled us with confidence that the goal we had set for ourselves was achievable and provided a practical roadmap to get there. Within a few weeks, we had our first version of the Android application and we iterated over it to meet our goal on time and under budget. Communication and collaboration was a breeze. The quality of their work was outstanding. We would hire them again in a heartbeat. Highly recommend !! - Arun Rao, Product Manager, Knomatic

Libraries and Technologies

- SDK and Support Libraries
- Timber
- Lombok, Butterknife
- Retrofit
- Otto event bus
- Saaripar, Prettytime
- Google Maps and Location

Dev Tools

- Android Studio
- Git, GitHub



Direct Energy Account Manager (Early 2016) for Direct Energy, Houston

About App

The Direct Energy App helps the user to understand their energy bill and see how they can reduce their usage and save. The Direct Energy App makes it easy to manage user's account and energy usage from their fingertips! They are able to monitor their daily energy usage (and what that means dollars and cents wise), which appliances use the most energy, and much more, plus, they can pay their bill, renew or transfer their service, enroll in rewards.

Domain

Energy, Utilities

Contribution

This was my first project as team lead. I got project after one month of its commencement. At that time the project was lagging behind the schedule. Team size for Android app in this project was around 6 including developers from US. Being my first project as team lead most challenging task here was Time Management and learning to delegate tasks. We were successfully able to deliver project on-time and got good reviews from our US based Project Manager.

Abhishek Bansal - CONFIDENTIAL



Libraries and Technologies

- Design Support Library
- Gson
- Retrofit
- Timber
- Butterknife
- Glide
- Lombok

Dev/Design Tools

- Android Studio
- Postman
- Git
- Gitlab
- Fabric Console





Continuous Integration(Jenkins) and Continuous Delivery(Playground) setup @moldedbits- Early 2017

About Project

As moldedbits was growing we felt need to have Continuous Integration and Continuous Delivery setup for our projects in order to streamline our development process. I took up this responsibility and chose Jenkins as CI Server because of its open source nature and plugin based architecture. I took one of our Linode instance and installed Jenkins server there. I then configured GitHub, Slack and Email integration with CI process. Every pull request on GitHub is first checked by CI system and then only its allowed to merge.

Playground

Playground is moldedbits's in house App store and Continuous Delivery system which is integrated with Jenkins CI server. As a product owner I conceptualized and defined Playground. Playground is currently used in all Android projects for delivering QA/Client builds in moldedbits.

Android Developer, moldedbits

since April 2016

- Unbox 2014
- Housing for Agents
- Smile Radar
- Autodocs
- nRG EVGO



Unbox 2014 (late 2014) for Quicksand

About App

UnBox Festival is the pioneering platform in India for interdisciplinary thought and practice hosted every year in New Delhi. Unbox app allowed fest visitors to discover the mind numbing array of events happening over the 3 days of the festival.

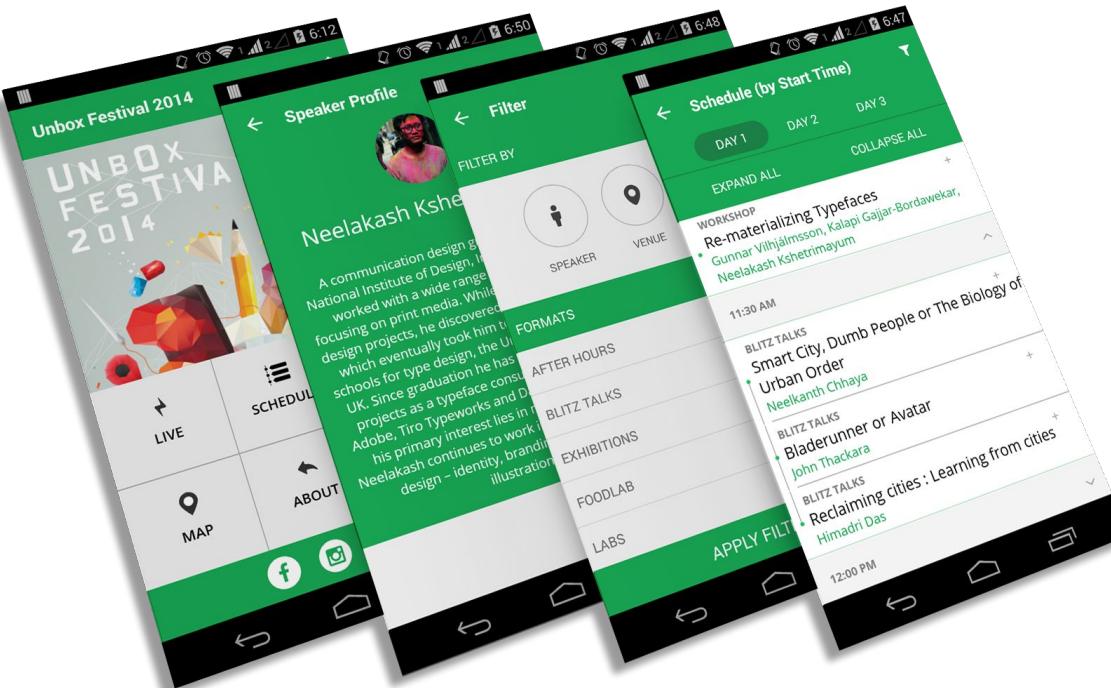
When we got this project, client had very short window of just 3 weeks for project completion. This was including Designs, front-end iOS and Android app and Server backend development.

Domain

Event Management

Contribution

1. This was my first Android App, Parse was selected as backend keeping very short timeline in mind.
2. Did short iterations on one week each, used mock data for completing frontend while server side development was still happening.
3. At the end of 3 weeks, App was ready for user on Play Store with API integrations. App was well received and got many 5 star ratings from visitors.



Libraries and Technologies

- Butterknife
- Parse SDK
- AppCompat
- Picasso
- ViewPagerIndicator

Dev Tools

- Android Studio
- Parse.com





Housing for Agents (late 2014) for Housing.com

About App

The Housing for Agents app lets property agents save your clients as Owners, Agents or Leads. It also provides real estate agents a network to find any matching leads or properties shared by other agents in the network.

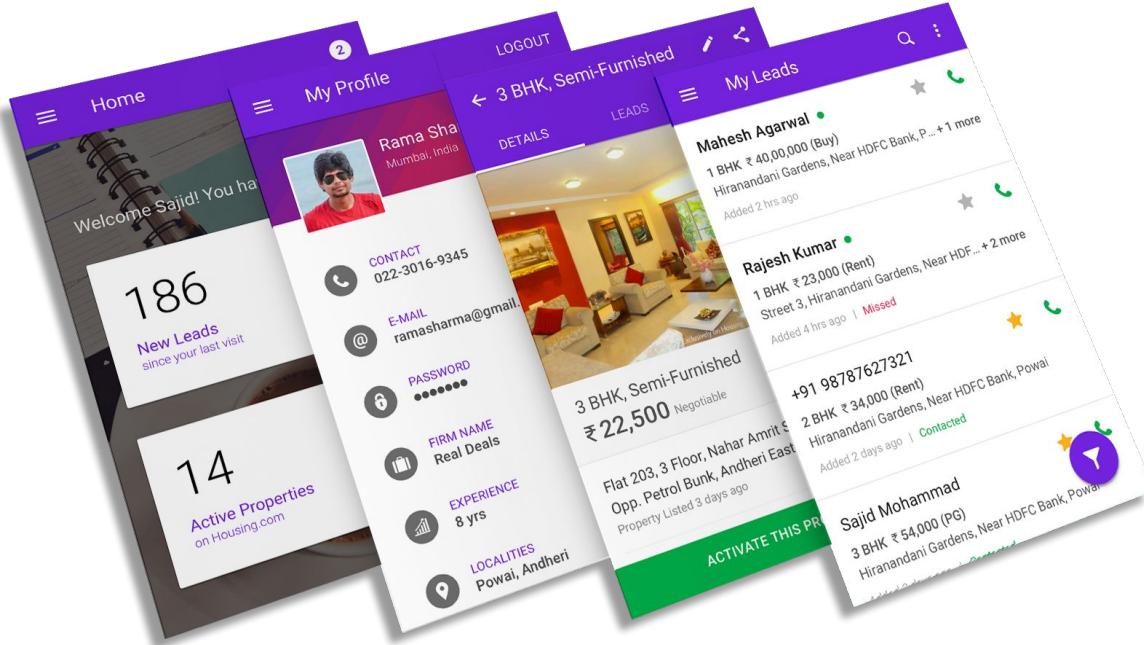
Agents can manage all their property listings and clients on-the-go, anywhere with the "Housing for Agents" app. They can keep a close watch on their clients, grow leads pipeline, and boost sales

Domain

Housing

Contribution

1. Development of various screens
2. Implementation of local cache
3. Client Handling & Interaction
4. Deployment



Libraries and Technologies

- Retrofit
- Prettytime
- Butterknife
- Lombok
- Picasso
- ViewPagerIndicator
- Mixpanel Analytics

Dev Tools

- Android Studio
- Git
- GitHub





Smile Radar Prototype For Smile Radar (Early 2016)

About Project

Smile Radar wanted moldedbits to build a intelligent prototype which automatically detects if cheek retractor is in right position and then click photos and send to doctor. There were two parts to it, first correctly identify relevant area in patient face with retractor on. Second, create a time-lapse video from such images taken over a period of time. I implemented first part of this problem statement in a prototype.

Work Done

1. Study possible detection and learning algorithms
2. Wrote Open CV object detection in C++ using XCode
3. JNI interfacing of this C++ code so that it could be used in Android App
4. Prepared data set of more then 3000 sample images and fed to HAAR Classifiers
5. Implemented a prototype with OpenCv which detects retractor in live camera feed in android.

Tools/Technologies

1. C++ in XCode
2. Android Studio
3. OpenCV
4. Imagemagick CLI Tools

Autodocs- Document Creation Simplified (Mid 2015)

moldedbits

About Project

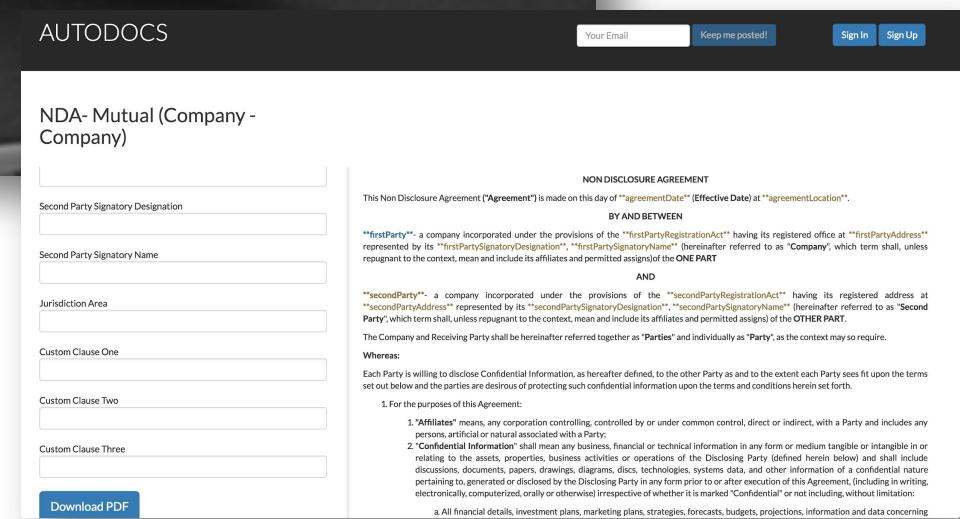
Autodocs is a document creation/generation platform which makes boring task of creating complex documents effortless. Initially we developed a prototype which generates documents like NDA after user fills in required personal information. Later after user research it was decided to evolve it as a collaboration platform which would have helped lawyers do their work efficiently. It would have made managing cases, document reviews, assigning tasks simple and easy.

Contribution

Autodocs was supposed to be developed as in house product of moldedbits. As there was no web developer available I learned basics of AngularJS and RoR in order to build prototype. I was able to build a working PoC in about 2 months which we could show to potential end users.

Technologies

- AngularJS
- RoR

The screenshot shows the Autodocs platform. The top section features a dark background with a pen writing on a document, overlaid with the text "Document Creation Simplified" and "Create complex, boring documents in a few simple steps". Below this is a "Get Started" button. The bottom section shows a form titled "NDA- Mutual (Company - Company)". It includes fields for "Second Party Signatory Designation" and "Second Party Signatory Name", both represented by input boxes. There are also fields for "Jurisdiction Area", "Custom Clause One", "Custom Clause Two", and "Custom Clause Three", each with its own input box. At the bottom of the form is a "Download PDF" button. The right side of the page contains a "NON DISCLOSURE AGREEMENT" section with legal text and terms of use.

Graphics Engineer, VizExperts

May 2012 - Apr 2014

- VizDisplay
- Virtual Reality Creator/Trainer

VizDisplay for VizExperts (Early 2013-14)

About Project

In-house product of the company, VizDisplay is software part of Integrated Control Room Solutions provided by VizExperts to its clients. Primary task of software is to take Audio/Video streams from different sources and then display them on an ultrahigh resolution wall in seamless way. User is provided with numerous features to control, manage and archive those streams.

Contribution

1. Feature Development
 1. Directly responsible for FFmpeg based Encoding/Decoding
 2. GPU based Video Color Correction
 3. Screenshot Presets
 4. Auto Snapping of Source Windows
 5. GPU based Higher Order interpolation Algorithms
2. Performance Benchmarking framework
3. Performance Optimizations
4. Modularization and Redesigning
5. Code Reviews and Design Reviews
6. Debugging, Testing and Documentation
7. Mentored iOS port of VizDisplay Controller

Libraries and Technologies

1. C++, Visual Studio 2008
2. OpenSceneGraph
3. DirectShow
4. FFmpeg
5. QT 4
6. Boost Libraries
7. Eclipse on RHEL



Virtual Reality Creator/Trainor (Late 2013 to Early 2014) for Center for Air Bourne Systems(CABS, Bengaluru)

About Project

Primary component of one of a kind Virtual Reality Lab setup in India at Center for Airborne Systems (CABS, DRDO) in Bangalore. Use cases include rapid prototype development in form of assemblies in with real-time collaboration, Analysis and Visualization of those prototypes and decision making. Also it includes a training module to train users on custom scenarios.

Contribution

1. Feature Development
 1. IGES format Support
 2. SVN Integration in Application
 3. Multi User Collaboration with HLA Protocol
 4. Snapping and Constraints
 5. Rotation about a pivot etc.
 6. Performance Benchmarking framework
2. Performance Optimizations
3. 64bit port
4. Debugging, Testing and Documentation
5. Optimizations in Mission Play Back and Loading

Libraries and Technologies

1. C++, Visual Studio 2008
2. Python 2.7
3. Vizard SDK

Personal Projects/Self Learning

Since beginning of my programming career

- Hue for Kids
- Hue Restore
- GST Search
- My Places
- 3D Live Wallpapers for Android
- Foodiediaries



Hue for Kids (Early 2017) Personal Project

About App

Hue for Kids is only Philips Hue focused learning app in the market as of now. This app makes learning fun for young kids by making Philips Hue lights react to actions of a child as he gets to know about different colors, fruits, flowers and vegetables.

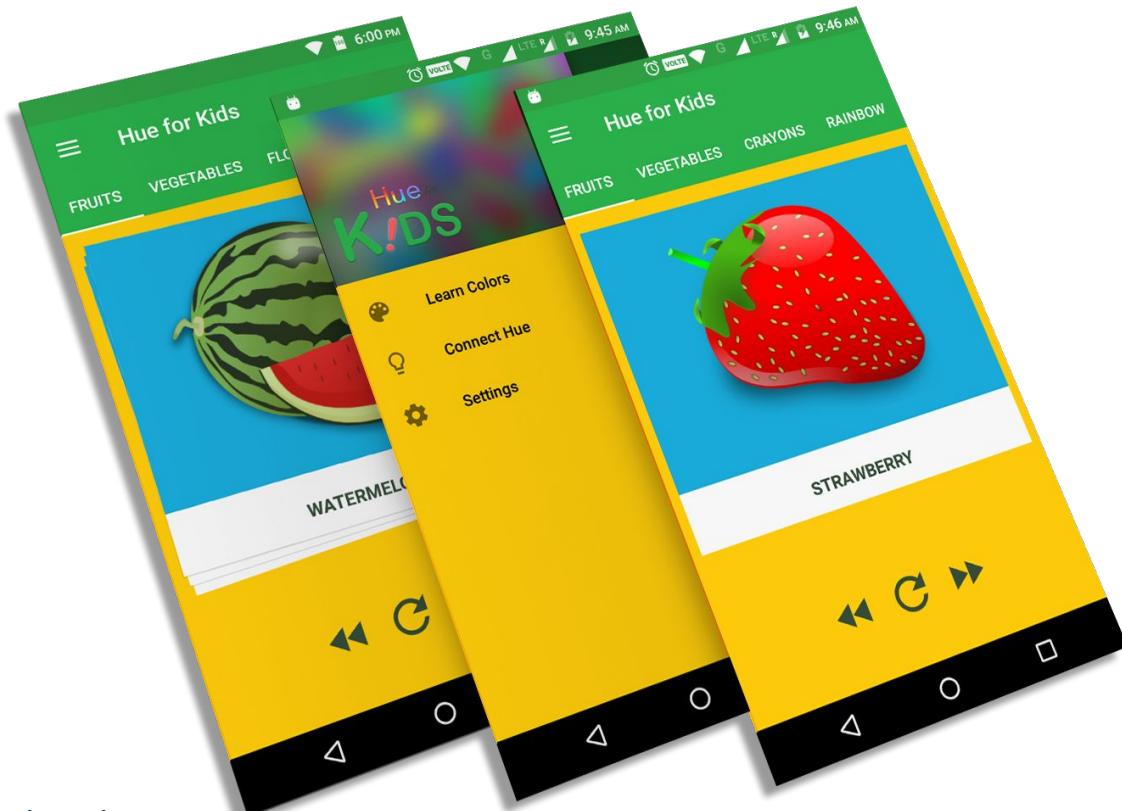
Hue for Kids iOS version is officially a featured app by [Philips](#).

Domain

IoT, Education

Contribution

Conceptualized, designed, developed and deployed.



Libraries and Technologies

- Kotlin
- Crashlytics
- Answers
- Firebase Messaging
- Firebase Analytics
- In App Billing
- Design Support Library
- Gson
- Retrofit
- Timber
- Butterknife

Dev/Design Tools

- Android Studio
- Postman
- Git
- Bitbucket
- Adobe Photoshop
- Fabric and Firebase Consoles



Hue Restore (Mid 2017) Personal Project

About App

Hue Restore lets user save and restore all Philips Hue lights in his/her home with single tap. He can do this right from home screen of his/her phone with convenient home screen widget.

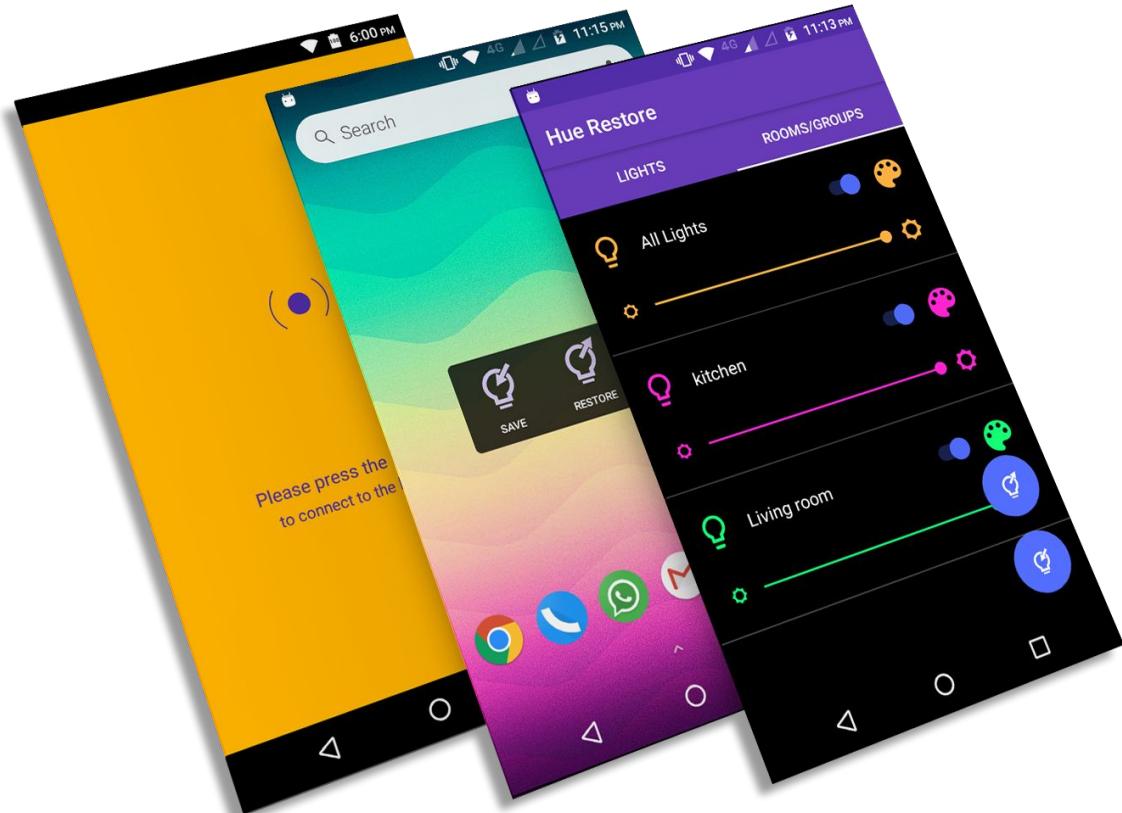
User no more has to worry about those pesky power cycle resets because he/she can get back his/her favorite settings in a single tap.

Domain

IoT, Utilities

Contribution

Conceptualized, designed, developed and deployed.



Libraries and Technologies

- RxJava, Retrolambda
- Crashlytics, Answers
- Firebase Messaging, Analytics
- In App Billing
- Design Support Library
- Gson
- Retrofit
- Timber
- Butterknife
- Greendao
- Lombok

Dev/Design Tools

- Android Studio
- Postman
- Git
- Bitbucket
- Adobe Photoshop
- Fabric and Firebase Consoles



GST Search (Mid 2017) Personal Project

About App

The GST SEARCH App brings you a one stop solution for addressing all of your Goods and Services Tax related woes.

With inception of GST in India came lot of confusions about tax rates, there was no single user friendly source that would have delivered information with ease.

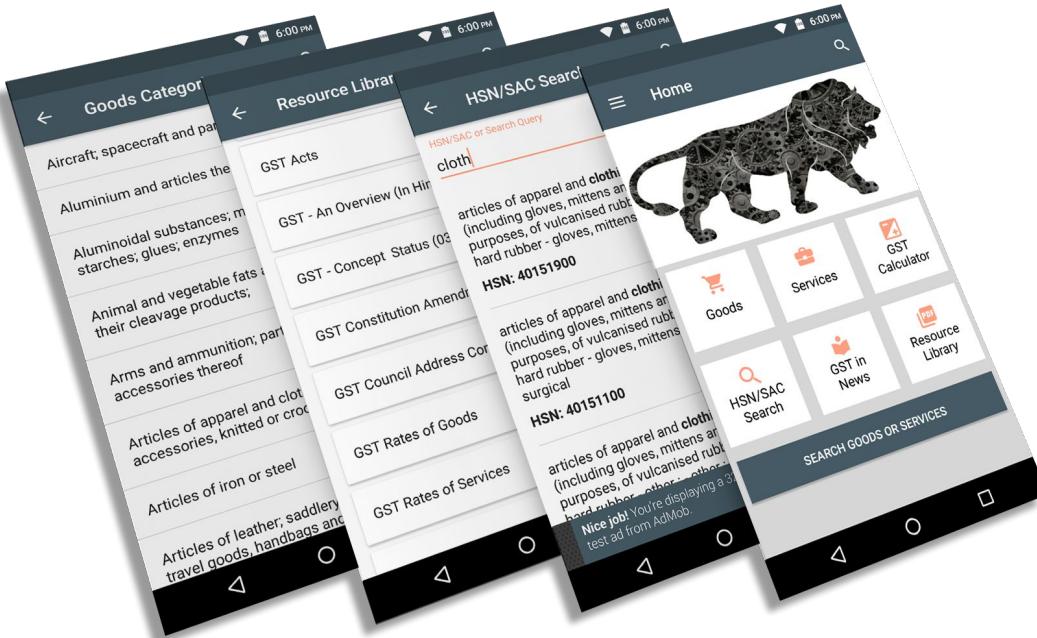
At that point of time I along with two other friends conceptualized and design GST Search app. We used RoR/AWS for server side development and decided to go for Android app first.

Domain

Finance

Contribution

Designed, developed and deployed.



Libraries and Technologies

- RxJava, Retrolambda
- Crashlytics, Answers
- Firebase Messaging, Analytics
- Retrofit, Gson
- Butterknife, Lombok

Dev/Design Tools

- Android Studio
- Postman
- Git
- Bitbucket
- Adobe Photoshop
- Fabric and Firebase Consoles





My Places (Late 2016) Personal Project

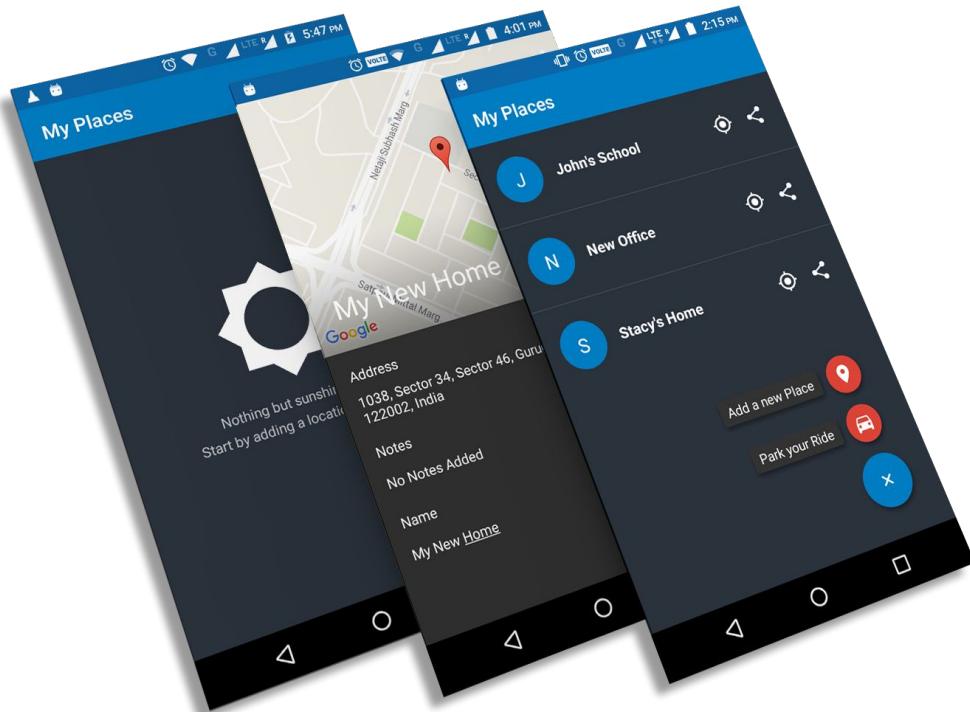
About App

My Places is an app with which you can save locations you visit and then share them to your friends or you can navigate there from anywhere with a single click. Its your personal location directory.

I came up with this app because I myself am pretty bad at remembering routes. With My Places I never have to worry about remembering routes.

Domain

Location, Utilities



Contribution

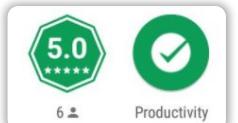
Conceptualized, Designed, Developed and Deployed.

Libraries and Technologies

- Play Location Services
- Greendao
- Design Support Library
- Butterknife, Lombok

Dev/Design Tools

- Android Studio
- Git
- Bitbucket
- Adobe Photoshop
- Fabric and Firebase Consoles



Foodie Diaries- One stop for all foodies (Mid 2016) Personal Project

About Blog

The essence of [foodiediaries](#) is pure sinful food love. This is a blog dedicated to all foodies where new recipe and restaurant reviews are posted regularly.

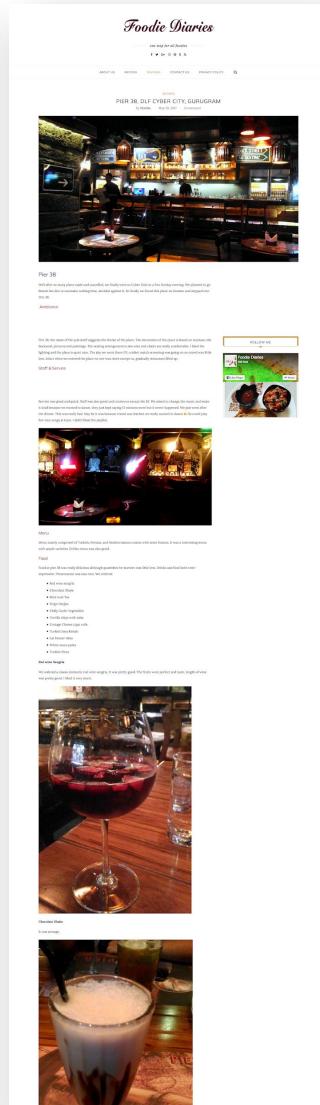
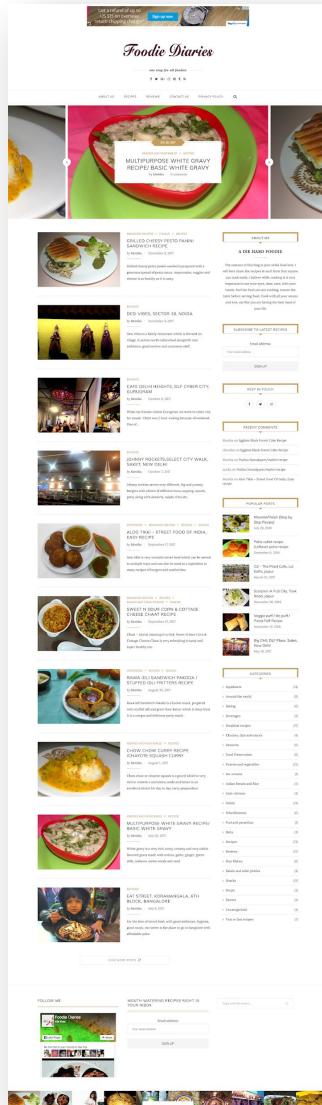
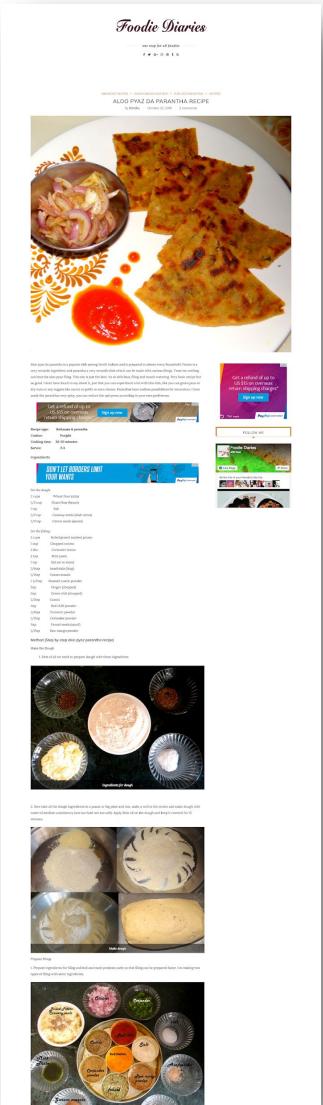
My sister Ms. Monika Bansal is amazing cook and a big time foodie. She wanted to share her recipes and experiences with the world. It is then I gave her this idea of starting a blog.

Contribution

- WordPress installation and maintenance
- Domain/Hosting Management
- WordPress theme setup
- Integration with Adsense
- Integration with social networks

Platform

- Wordpress



Thank You