SRISTI SANSHODH COLLECT

APPLICATION BASED PROJECT TO DIGITIZE INNOVATION DOCUMENTATION

TEAM

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PROBLEM

Abstract

When the problem was presented to us, we were asked to build an application that assists field scouts to document innovative practices from the grassroot level across rural and urban India.

Road to Problem Definition

- Upon *Sanshodh* ('research' in Gujarati), we could understand and map the whole process through which each innovation documentation goes.
- We spoke to Senior Innovation Fellow, Dr. Kanti Patel, at NIF about their current methodologies to document and collect data. The team was introduced to other parties involved in the process such as the VARD(Value Addition, Research and Development) Team and the PAS(Prior Art Search) Team.

- A few team members visited Manu Bhai, who works at a Mango Orchard around the Grambharti Campus. There, the team had a first-hand experience the first-time innovative practice documentation process.

The Final Problem Definition

After intensive debates, deliberations, use-case diagrams, and concept mapping, the team collectively framed the following problem definition.

To build an application with a robust backend framework and simplistic interface that can handle, process, and export a considerable load of incoming data including pictures, video, or even audio files that conform to the current data collection and processing methodologies at SRISTI/NIF.

ROADBLOCKS

Once the problem was identified, we could not wait to start working on our application. However, we had to face major roadblocks before we could even think of starting to work. Quite frankly, none of us had ever worked on building a software of this grandeur. Also, we had very little exposure to professional app building and software development lifecycles. In a sea of information on the Internet, we did not know what to look for. Neither any ideas for tools or kits, nor any background for collaborative development.

Water, water, everywhere,
And all the boards did shrink;
Water, water, everywhere,
Nor any drop to drink.

LIGHT AT THE END OF THE TUNNEL

While attending a Skype interaction with Ted Moallem, the 'App Team' (what we and everyone else called ourselves then) stretched at the back feeling out of place as every other group posed their practical challenges they were facing to Ted. Ted listened to each one of them patiently and responded with his insight and understanding. The 'App Team' so-far thought their only problem was their inadequate and sub-par skill-set.

A team member then suggested to put our problem (shamelessly) in front of Ted. His response was absolutely motivating and could easily be pointed out as **'The Turning Point'** in our journey of crafting a solution. Ted asked us to look into certain tools and open-source projects that can help us in building the app we designed. He mentioned that the Telegram API and Open Data Kit tools could help us in building the project.

SANSHODH ENDS. SANSHODH BEGINS.

After the interaction with Ted, the team was absolutely motivated to pull this through. We reworked our research and put concrete ideas on paper. The team then laid out the structure of the app and based on user-inputs, defined the user privileges and tools. Once, backed up with research, we realised the 'Sanshodh' phase was now over and it was time to materialize our ideas.

Although, we came upon the fact that 'Sanshodh' will always remain an important aspect of our product and our development lifecycle. So, we called the app, 'SRISTI Sanshodh Collect'

APP DEVELOPMENT

Revving up the CPUs

The team moved from their abode in Grambharti to the NIF Office in Ahmedabad to get better connectivity to the Internet and other local experts in App Building. The team met with Mr. Hemant who is a professional App Developer in Ahmedabad. Mr. Hemant introduced the team to collaboration tools like GitHub and BitBucket. The team then created a public repository on GitHub under an Apache 2.0 License to start writing some code. One of the team members read up thoroughly on the ODK (Open Data Kit) Documentation that Ted had mentioned of to check if there is any scope of help.

Setting up environments

Before starting to collaborate on a single project, it was absolutely necessary to setup the exact same development environment on each of our systems. We upgraded our Android Studio (Desktop Application to help build and organise Android Development) and installed the same on systems that did not have it before.

Open Data Kit breakthrough

One of our colleagues realised that Open Data Kit could actually serve as a solid framework for our app and that we can tweak its powerful tools a little to exactly suit our needs. The team was then clear that the App should be built around an ODK framework.

Software Requirements Specification Submission

Once we got our hands on ODK, we had the tools we needed. Now, we deliberated and discussed what modules our system can have that can be carved out with these tools. A preliminary but exhaustive SRS was sent to Sagar Bhai for approval from the team at SRISTI.
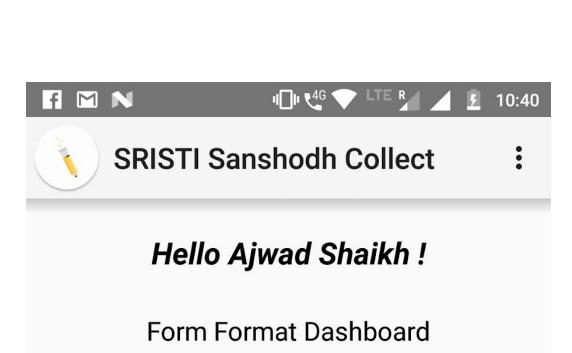
Coding Right is Coding Overnight

Over the next two days, the team worked pretty much day and night in shifts to bring out a somewhat stable build of the application that could carry out the basic requirements, something like a prototype solution to our problem. We also built for ourselves a robust backend on Google Cloud Platform to export and visualize the data.

Version Handling

In an attempt to relate our version builds to the app-use environment, we decided that we could name our versions on some of the crops that are cultivated. Analogous to how Google names Android Versions over desserts. Our first build that we released on May 30, 2018 was called the 'areca' build. We are still working on the master branch and plan on releasing a much more stable and upgraded 'barley' build before the end of Summer School.

Screenshots

SRISTI Sanshodh Collect

⋮
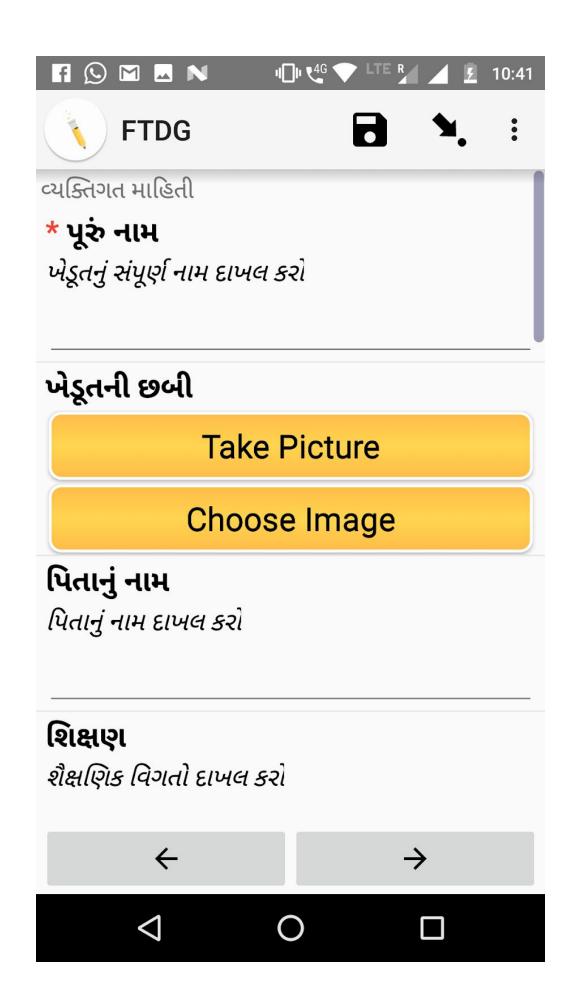
Hello Ajwad Shaikh !

Form Format Dashboard

☁ Get Blank Form	🗃 Delete Saved Form

Field Visit Dashboard

📄 Fill Blank Form	🖊 Edit Saved Form
☁ Send Done Form	🗃 View Sent Form (3)

Delivering Data. Spreading Goodness.

sanshodh

G   **Sign in**

व्यक्तिगत माहिती

* પૂરું નામ

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Take Picture

Choose Image

પિતાનું નામ

પિતાનું નામ દાખલ કરો

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શૈક્ષણિક વિગતો દાખલ કરો

← →

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In our pursuit of social innovation and bring together information technology to make innovation documentations indexable, accessible, and expedited, we could never have achieved our product had it not been for the interactions and insights from the wonderful inspirers mentioned below.

Prof. Anil Gupta

We thank Prof. Gupta for the constant motivation and support for innovative ideas. His idea of inclusive development has kept inspiring us throughout our time here at Summer School.

Dr. Ted Moallem

Dr. Moallem or simply Ted (like he prefers) is the saviour to our project. Ted brought to us the right ideas at the right time and showed us the right path. We thank Ted for his invaluable insight during our Skype interaction. Our project would have, honestly, never taken off without his inputs and advice.

Dr. Kanti Patel

Dr. Kanti provided us with the insight into the exhaustive working methodology and innovation documentation lifecycle at NIF. We thank him for taking out time and also connecting us to his peers for an expert review of our app.

Sagar Panchal

Sagar Bhai has been a constant support throughout our Summer School journey. He has spearheaded the mammoth task of managing everyone and despite that, taking out time to provide us with contacts and inputs during the process.

Akshay – NIF, Ahmedabad

We extend our gratitude to Mr. Akshay at NIF, Ahmedabad Office for hosting us for an entire week at his office. Mr. Akshay took it upon himself to make sure that nothing falls in line to the success of our project.

Apart from the names above, we owe immense thanks to every other staff from SRISTI, NIF and Grambharti who have worked to make Summer School possible.