

DashTricks: Pakistan

Team

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Problem

- ▶ Although vaccination has saved countless lives in Pakistan, many still die due to inefficiencies in the vaccine cold chain allocation and distribution system
- ▶ Resource allocation for vaccine cold chains is time consuming and error prone
- ▶ Problem areas have low visibility, potentially leading to vaccine shortages

Solution

- ▶ Automate as much of the cold chain calculation as possible
- ▶ Allow users to simulate different types of scenarios
 - ▶ Epidemics, new vaccines, etc.
- ▶ Point out potential problem areas
- ▶ Suggest ways to deal with hotspots based on available resources

Customers

- ▶ Those with a vested interest in improving the cold chain network in Pakistan.
- ▶ Example customers include:
 - ▶ Regional / District Managers
 - ▶ Potential Donors
 - ▶ Vaccine Advocates
 - ▶ Aid Groups

Challenges

- ▶ Technical
 - ▶ Constrained to the Android platform
 - ▶ Complexity of cold chain modelling
 - ▶ Data not always in readily usable forms
- ▶ Environmental
 - ▶ Time
 - ▶ Data entry amount, format, & correctness
 - ▶ Lack of domain specific knowledge
 - ▶ Minimal feedback & product iteration with customers

Requirements

- ▶ Calculate cold chain resource requirements
- ▶ Model current resource levels
- ▶ Allow for easy extending of resource requirements
- ▶ Suggest future resource allocation
- ▶ Show potential problem areas
- ▶ Update to future data

UI & Workflow

UI & Workflow

DashTricks-Pakistan

Load Data

DashTricks-Pakistan

New Scenario

Load Scenario

Settings

Settings

• Map ▼

Heat Map

Gradient Map

• Data ▼

- Import/Export Cold Chain

- Import/Export Immunization Plan

• Accessibility ▼

Color Blindness

UI & Workflow

Create Scenario

Immunization Plan

New Fridge Units

Scenarios

Scenario 1

Scenario 2

scenario 3

Scenario 4

scenario 5

scenario 6

scenario 7

scenario 8

UI & Workflow

New Immunization Plan

Name

Doses per vial:

Doses per person:

Space Needed:

Timeline:
 times per

Notes:

Load Immunization Plan

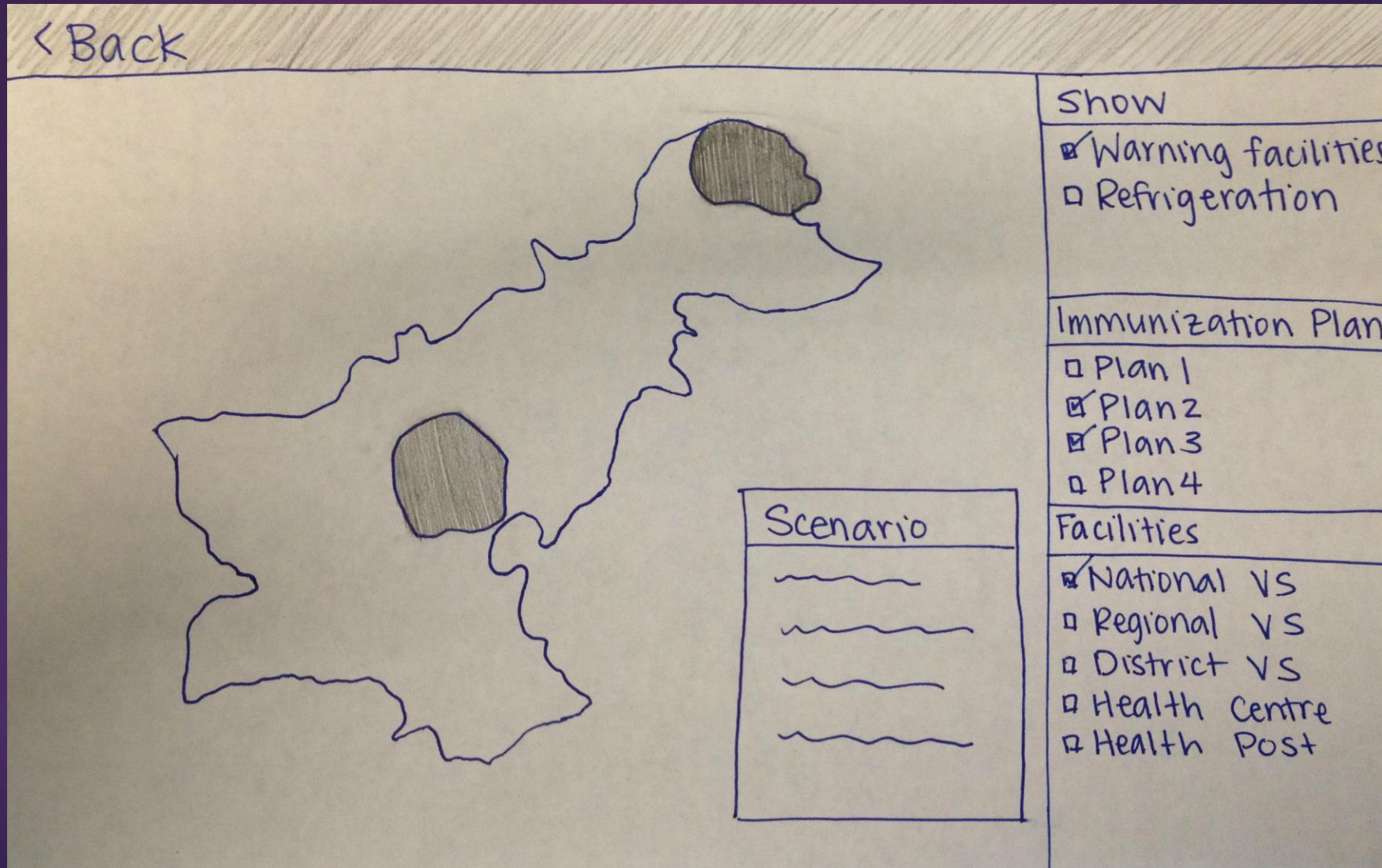
Plan 1

Plan 2

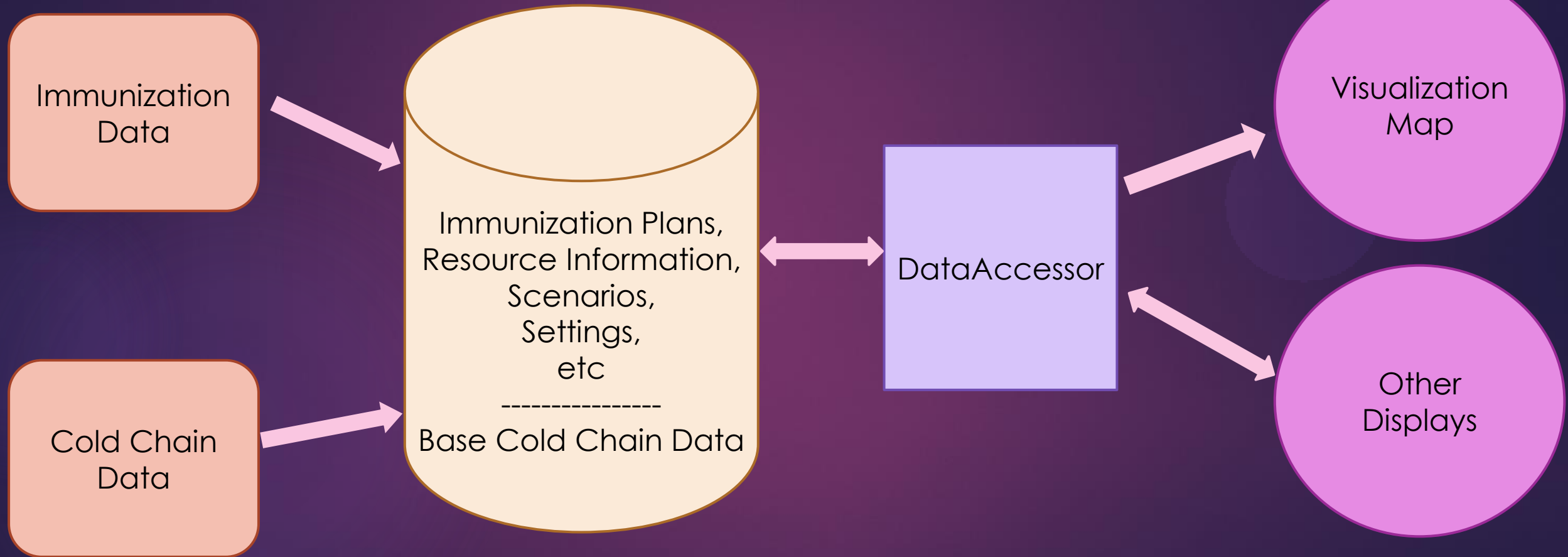
Plan 3

Plan 4

UI & Workflow



System Architecture



Work Plan

- ▶ Week 1: Introduction to domain and Android.
- ▶ Week 2: External resource exploration. Workflow & UI prototyping. Schema prototyping.
- ▶ Weeks 3 - 4: Required component creation.
- ▶ Week 5: Integration. Creation of minimum viable product.
- ▶ Week 6: Feature freeze. Dedicated testing and bug fixing.
- ▶ Week 7: Alpha test begins. Work on secondary features begins.
- ▶ Weeks 8 - 9: Alpha test feedback received, and incorporated. Secondary features finalized.
- ▶ Week 10: Feature freeze. Dedicated testing and bug fixing. Project write-up.



Questions?

[HTTPS://GITHUB.COM/JAPACIBLE/DASHTRICKS-PAKISTAN](https://github.com/japacible/dashtricks-pakistan)