Visual Analytics for Plant Pangenomes

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5 October 2020

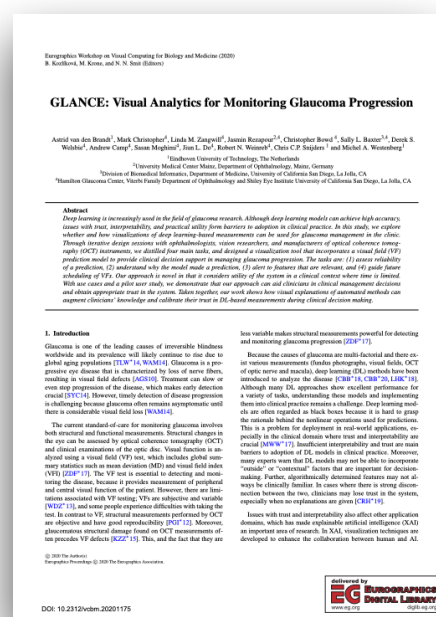# About me

Dept. Of Mathematics & Computer Science

Visualization Cluster

PhD Candidate @ Eindhoven University of Technology

Msc Data Science and Entrepreneurship

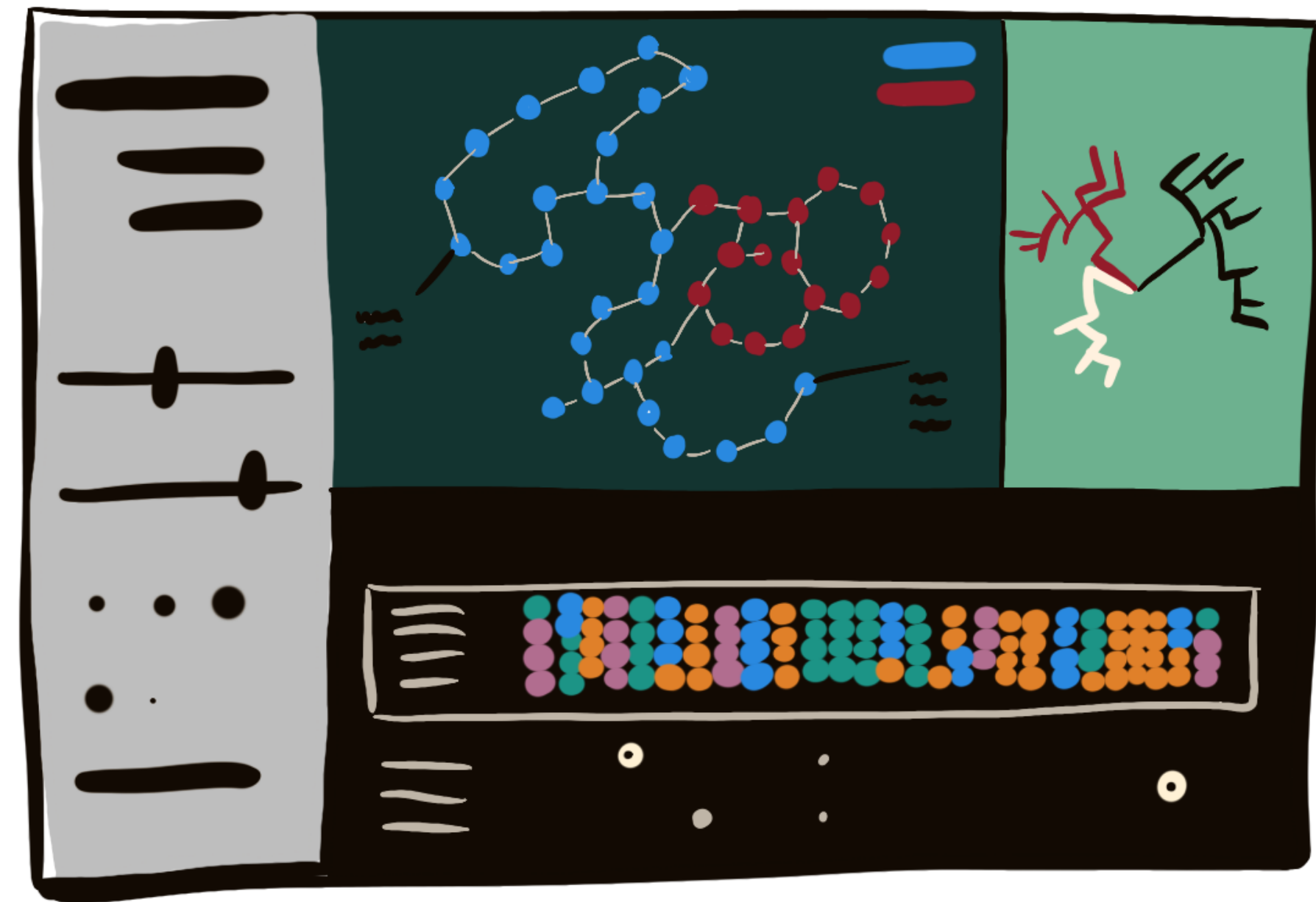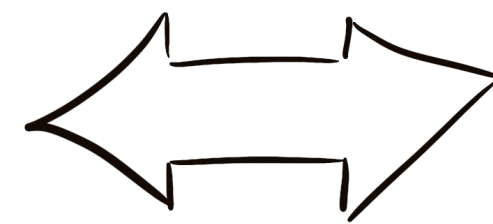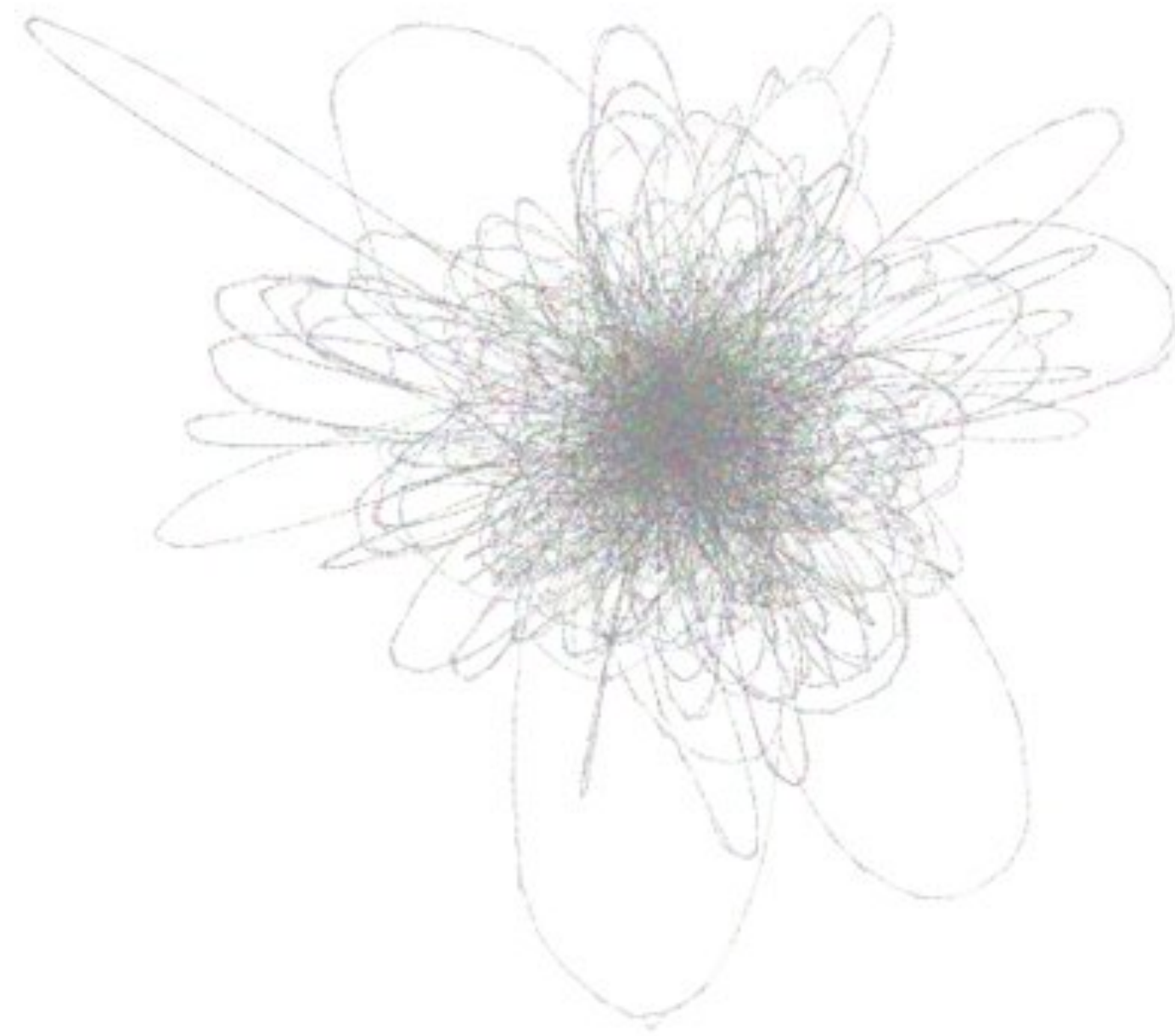**Bsc Industrial Design**

GLANCE: Visual Analytics for Monitoring Glaucoma Progression

Design Study

VA for Plant Pangenomes

Translating pan genome information into meaningful views for genome scientists
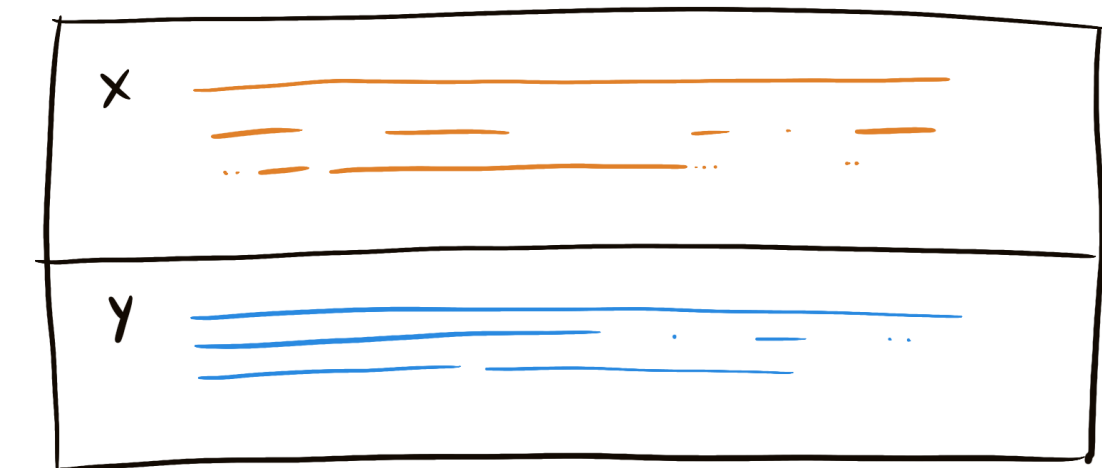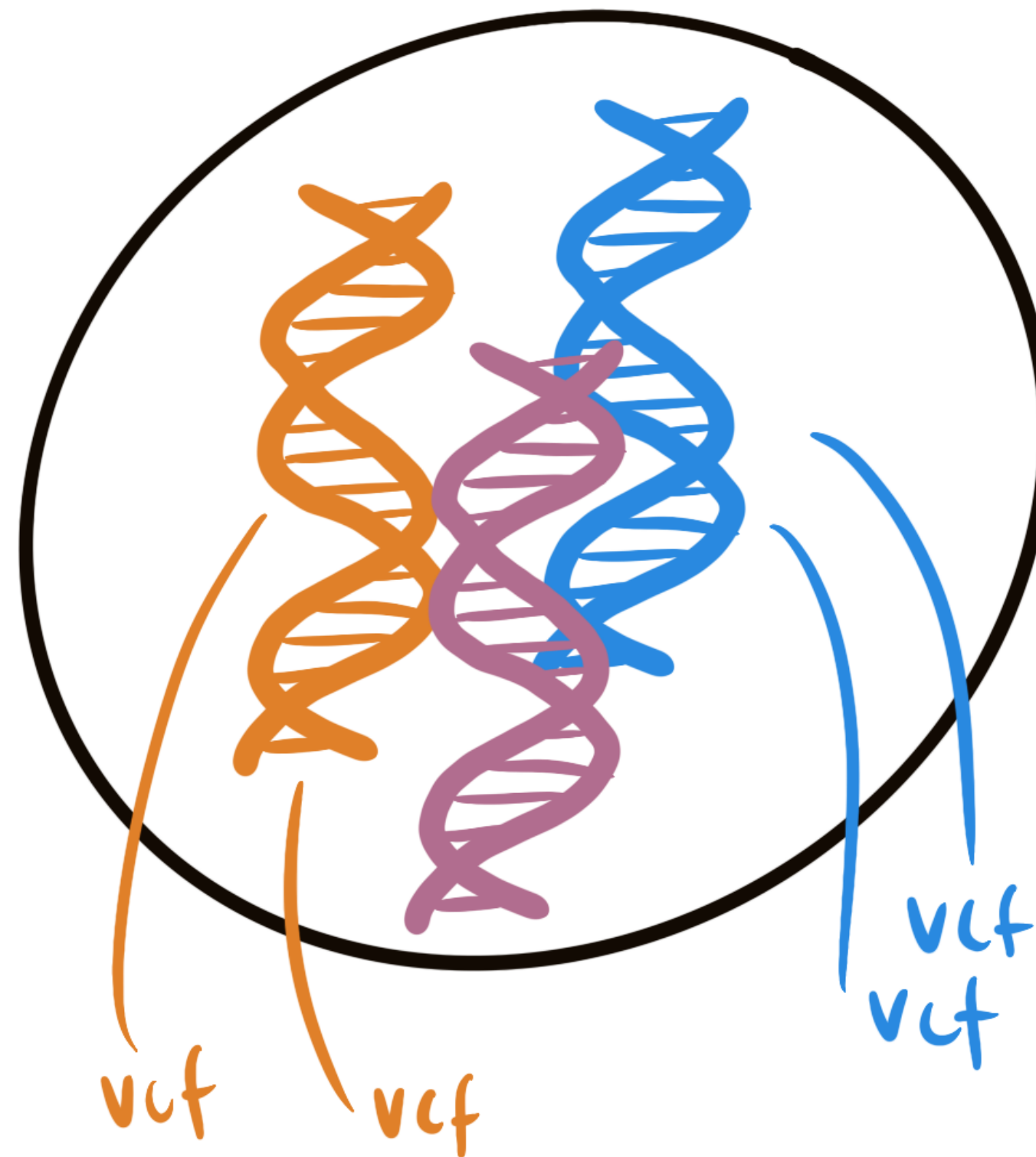
What do __we__ need?

Use Cases: genomic diversity

1. Sequence Variation: allelic variation, genetic variation
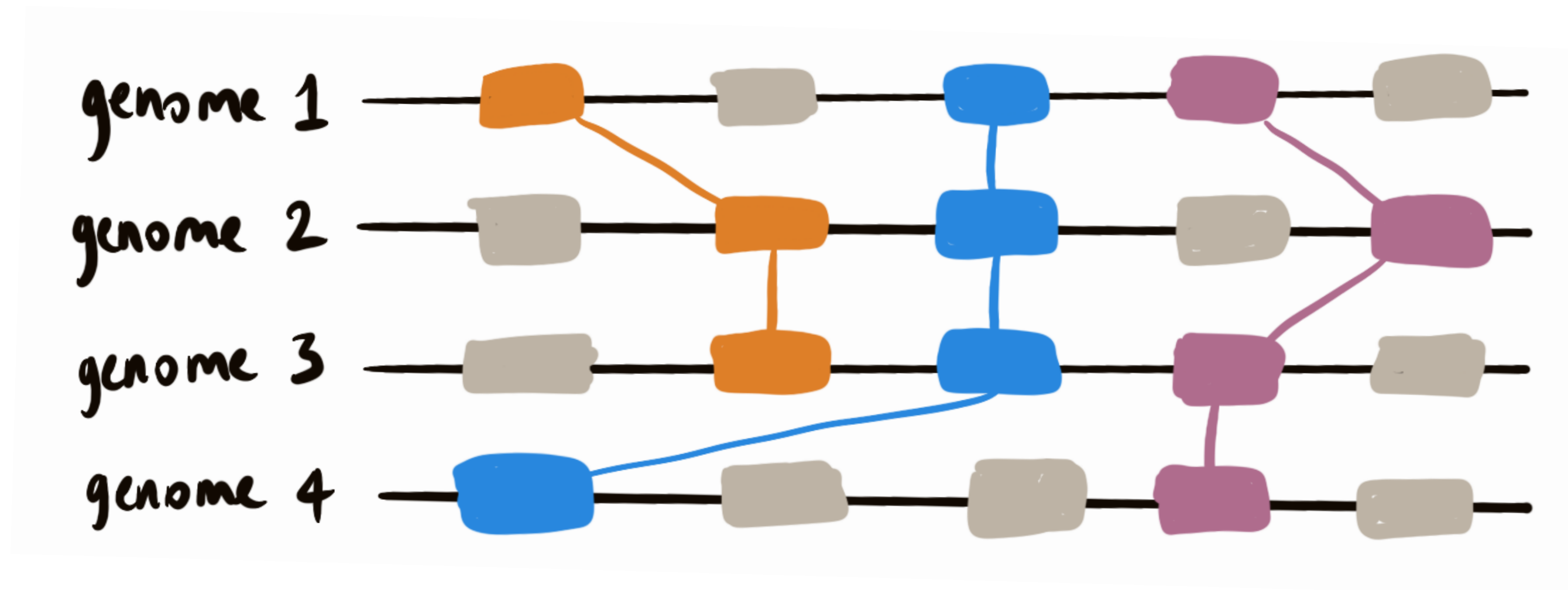
Small-scale variation

Pangenome

- Genomic regions
- VCF files

Use Cases: genomic diversity

2. Structural variation: collinearity/synteny, gene order
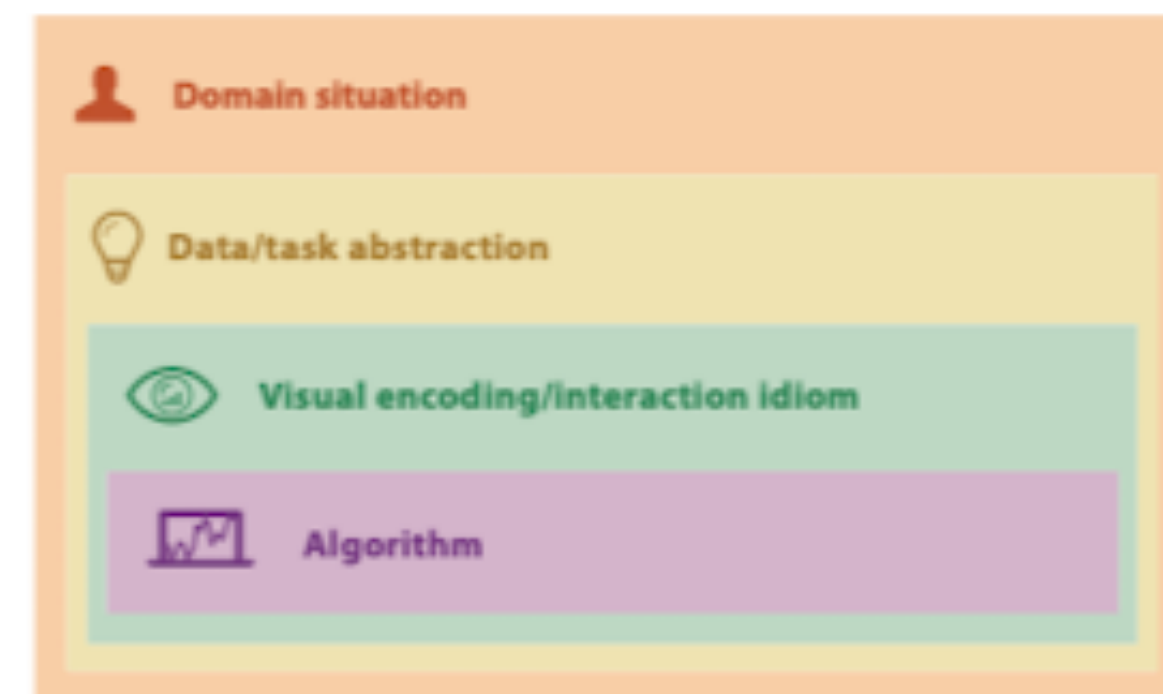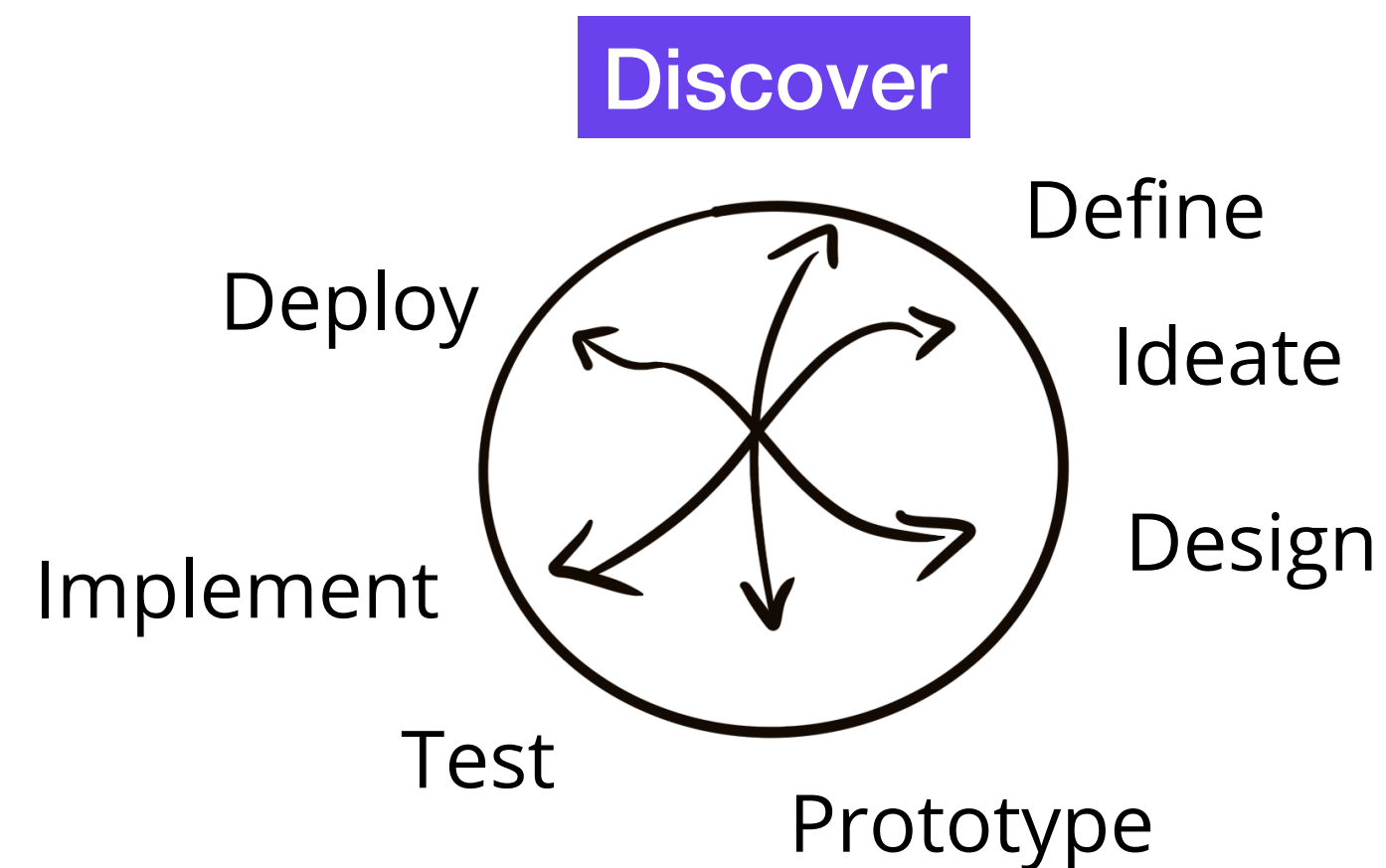
Large-scale variation

Visualization challenges

- **Complex data structure (large and heterogenous)**

- **Intuitive exploration between different levels of organisation**
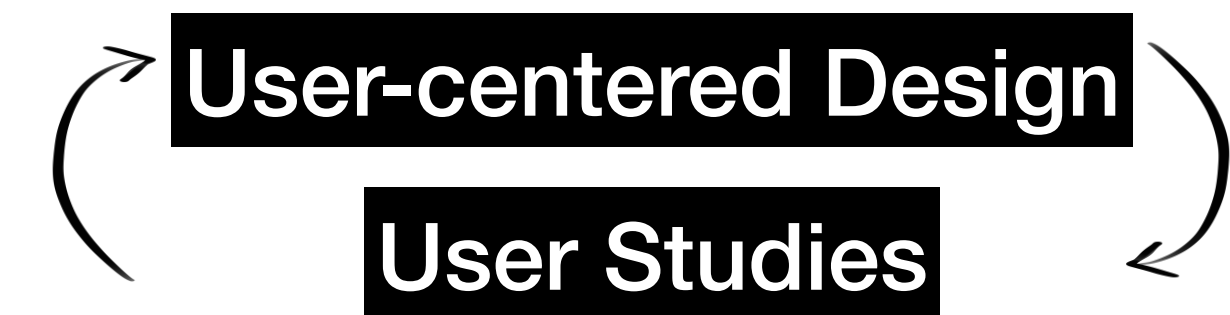
    Beyond pairwise comparisons

Approach

Visualization Design Process

Discover

Define
Ideate
Design
Prototype
Test
Implement
Deploy

Domain situation

Data/task abstraction

Visual encoding/interaction idiom

Algorithm

Munzner (2014). Four nested levels of vis design.

User-centered Design

User Studies

Task Analysis

Domain situation

Questions & Needs → Qualitative assessment

Task & Data abstraction

Visual Encodings

Outline
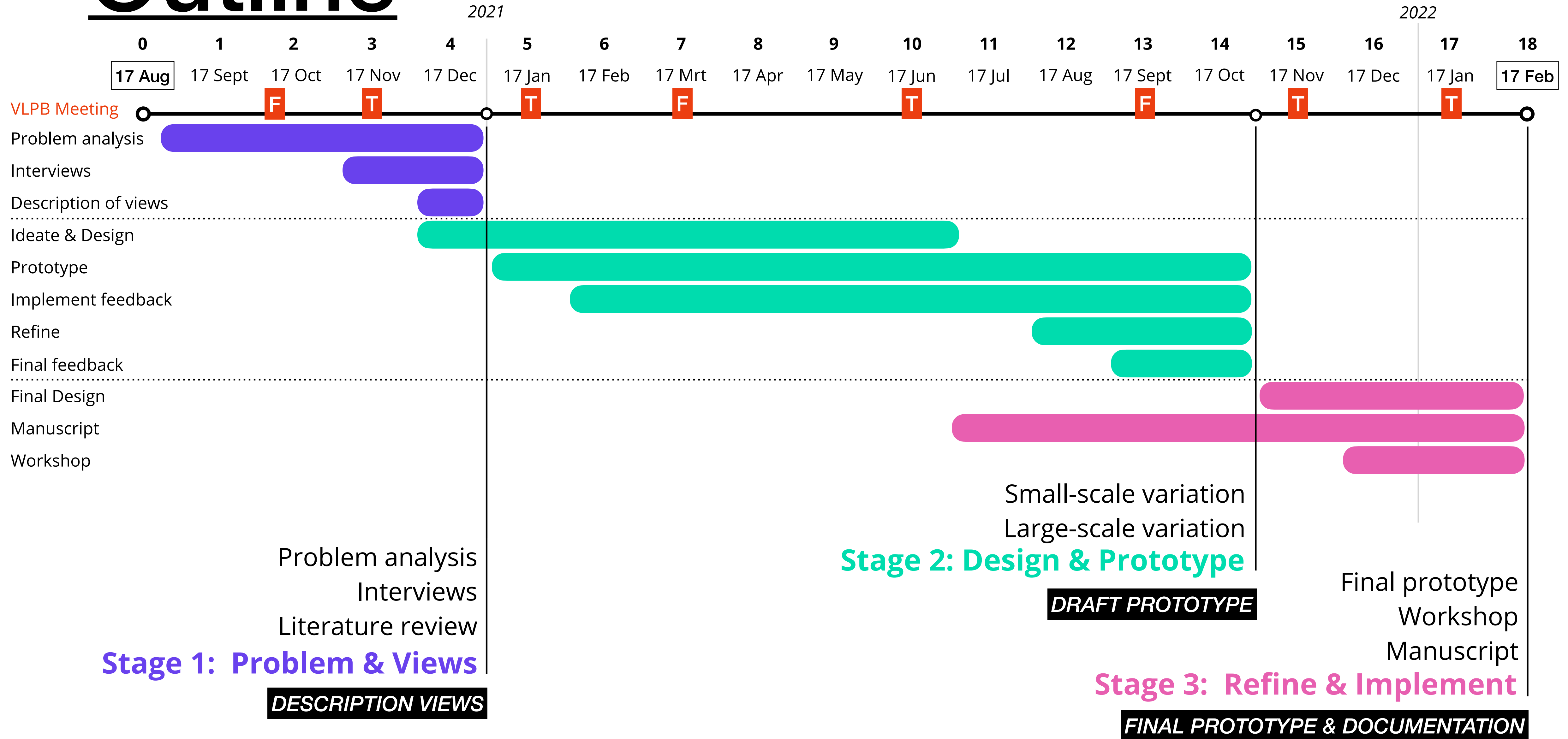
Communication

Communicating progress   VLPB meetings, telecons, Shortcase

Interviews & visits   Face-to-face, telecons

T1: 17/11/'20 between 9:00 and 12:00 (?)

T2: 19/01/'21 between 9:00 and 12:00 (?)

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