Non Intrusive Contact Sharing

CS 339
Mac Finnie ‘16

motivation

Exchanging contact information is a dated and largely manual process, why?

Security - We have a “standard” encoding of when to share contacts.

motivation

What is this encoding?

Gesture - One way of initiating contact sharing is through a gesture, such as a handshake.

Language Processing

motivation

What is there to gain from an automated digital exchange?

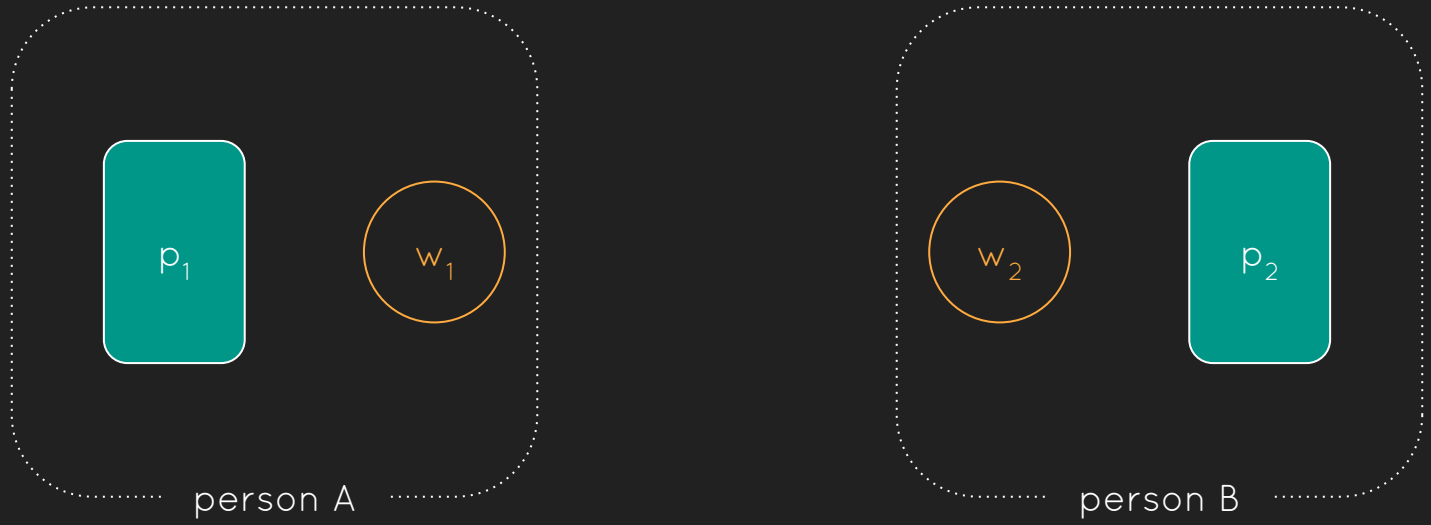
Data - Increased amount of information about each encounter. Learn and predict.

concept

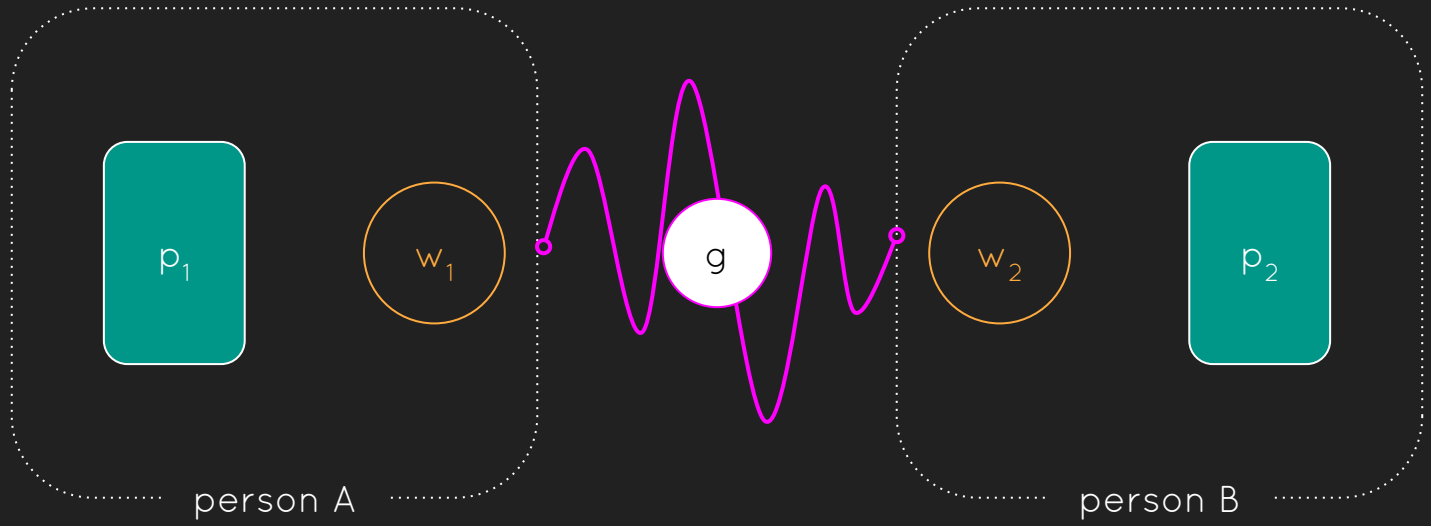
How do we recognize a gesture?

Accelerometer - Pebble Smartwatch

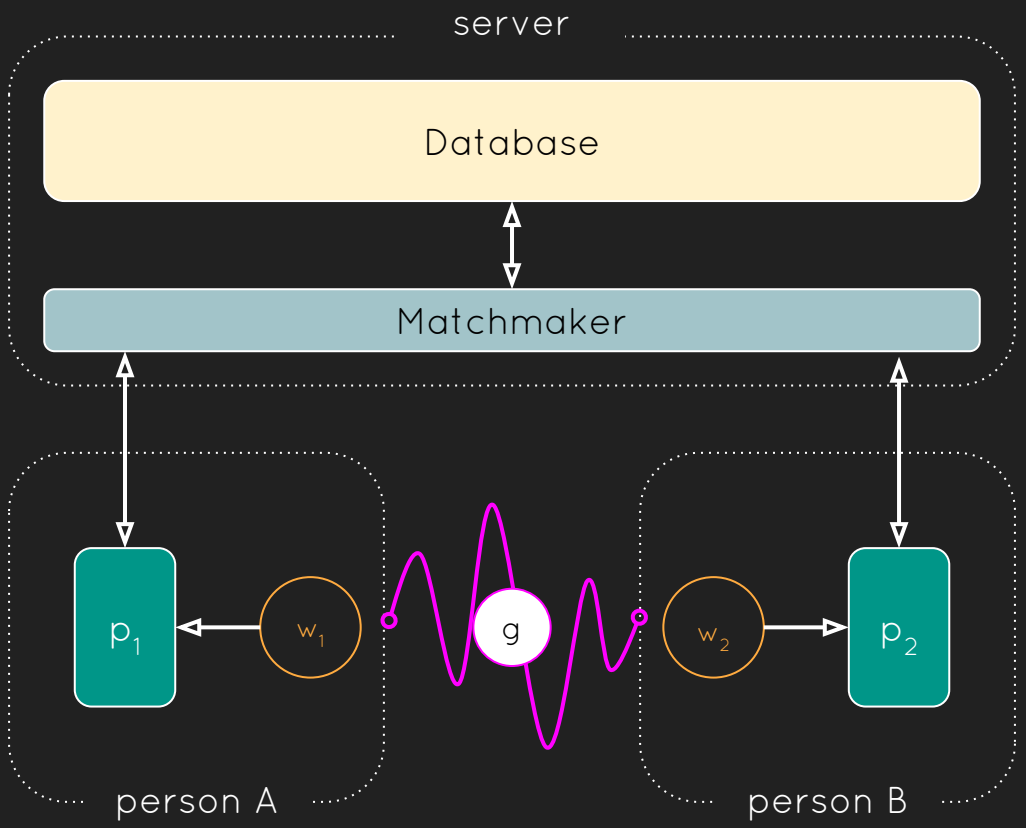
architectural overview



architectural overview



architectural overview



architectural overview

components

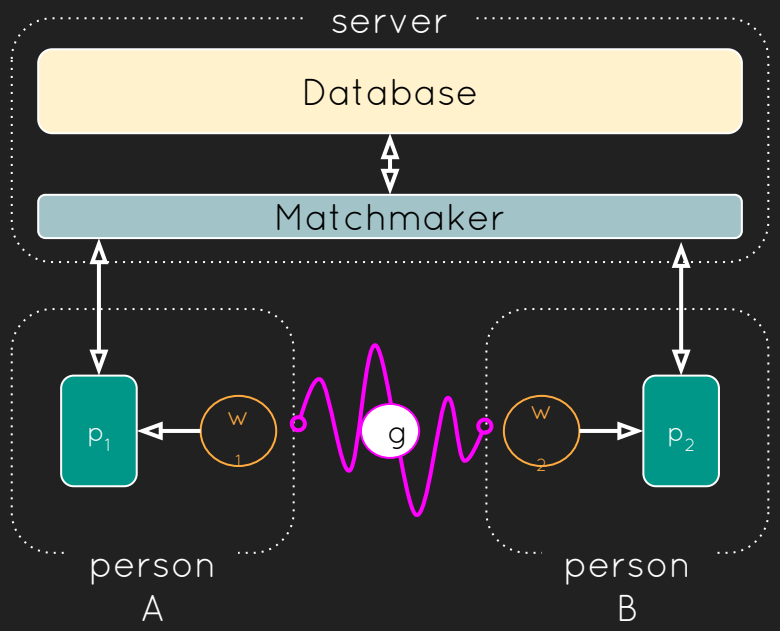
1. sensor running on watch (C)

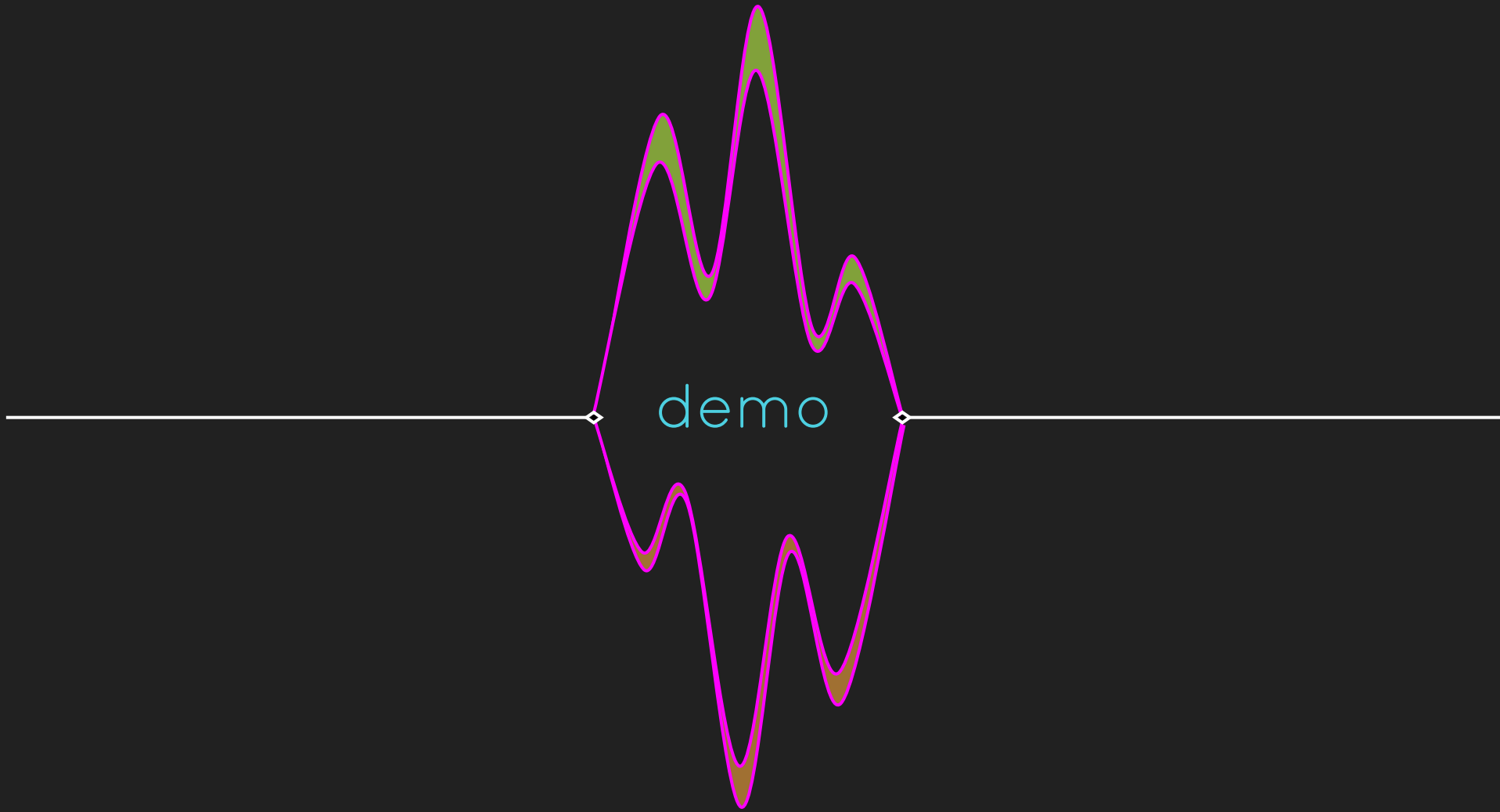
2. phone collecting sensor data and requesting pair (java & javascript)

3. web service (Apache2)

4. matchmaker (PHP)

5. database (MySql)




demo

database partitioning

why?

I. single table is inefficient

II. optimize queries - only look where is most likely

III. data organization

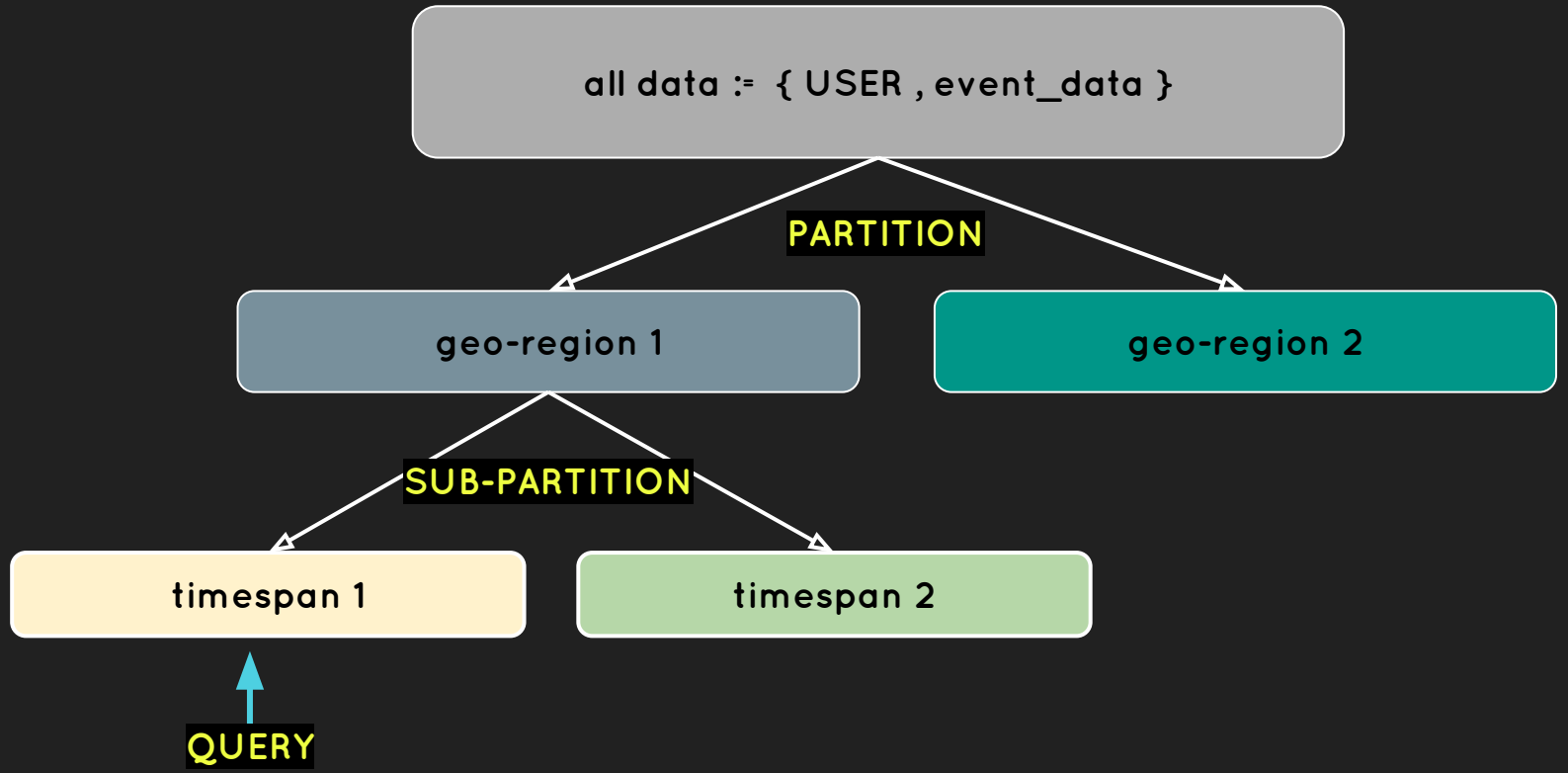
database partitioning

how?

horizontally partitioning each table by assigning a row to a partition of the file system

subpartition to create a hierarchical structure

database partitioning



future direction

1. expand recognized gestures

2. rethink system design (p2p)

3. increase point of contact data

4. learn and predict
(both partitioning and user experience)