RESO's UPI
A Real World Implementation

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JOVIO

About Jovio

- Real estate brokerage based in Austin, TX

- Jovio builds proprietary products that enable streamlined brokerage services and enhance the home selling experience

- Jovio customers range from first time home sellers to experienced home sellers to tech idealists

Jovio Objectives

Use Cases

- During data acquisition from multiple providers, Jovio generates UPI's

- Property data warehouse queries use UPI's as foreign keys (and addresses)

- Historical property records are collated from Datatree, Actris, etc.

Implementation Results

- Postgres functions generate UPI's for each data provider

- UPI's are validated syntactically and locally for uniqueness

- Property data from Datatree's generates PID's 99.7%
  - Failures are duplicate parcel numbers

- Property data from ACTRIS generates PID's 76%
  - Failures are duplicate or missing parcel numbers

Implementation Example

- Postgres psql UPI generator example

```
CREATE or replace FUNCTION datatree.upi(p datatree.properties) RETURNS varchar AS $$
DECLARE
  country varchar := 'US';
  sub_county  varchar:= 'N';
  prop_type  varchar:= 'R'; /* Datatree has a unique parcel number per unit, so there is no Stock
      cooperative, ... */
  sub_property_id  varchar:= 'N'; /* ... all properties will be prop_type = R */
  sub_country varchar;
  local_id  varchar;
BEGIN
    sub_country := p."FIPS";
    local_id := regexp_replace(p."FormattedAPN", '[^a-zA-Z0-9]+', '','g');
return concat_ws('-',country,sub_country,sub_county,prop_type,local_id,sub_property_id);
END;
```

Implementation Technical Issues

- UPI definition depends on missing data (e.g. parcel numbers)

- Provider data schemas are changeable

- Other data fields are not in standard formats (e.g. street addresses)

Discussion

- Open standards vs. proprietary implementations?
    - Lower cost and lower technical risk

- From portability to interoperability?

- The importance of implementations to standards works?

- Identifier attributes, such as permissions for access control

    - File system analogy

Jovio Credits

- Christian Kuroki in Buenos Aires

- Cliff (William) Birtwell in CT

- Megan McMahon, BJ Thomas, and Floyd Hebert in Austin