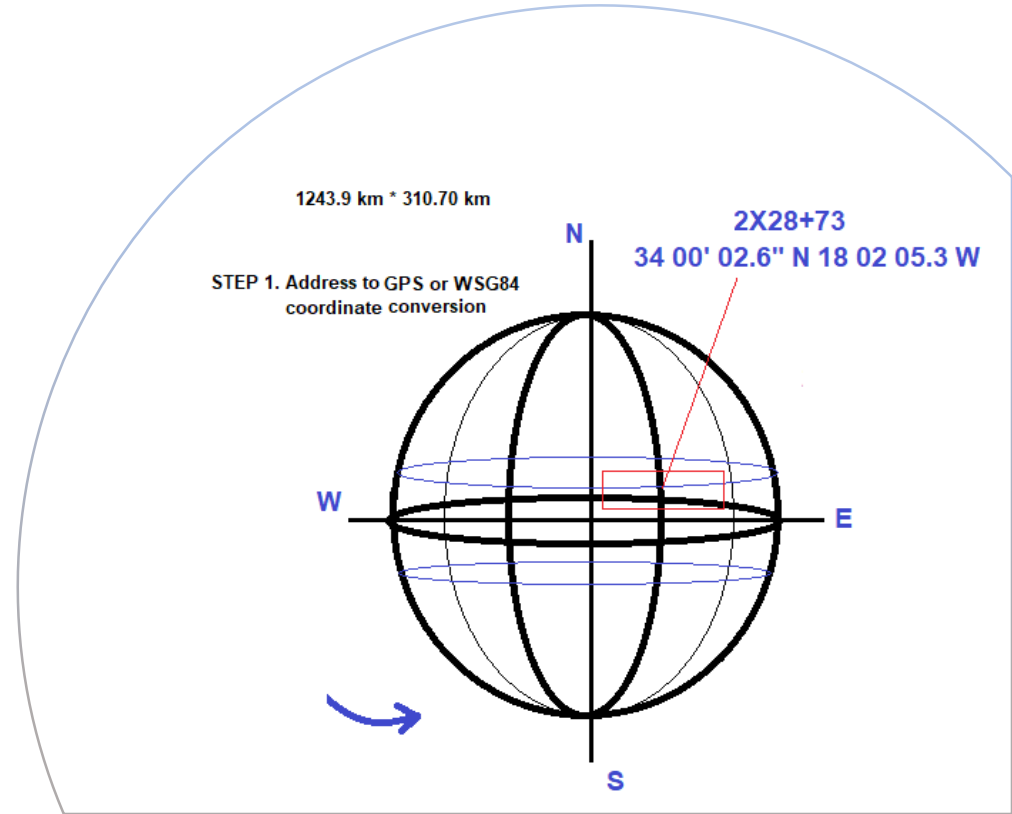# Stringed Open Location Coordinate

SOLC

SOLC pronounced "Soul-C"

- This is an application that could be used anywhere (mobile, pc, web browser) for converting GPS or WGS84 coordinates into carefully chosen strings (alphanumeric) consisting of 5 characters. This algorithm boasts an accuracy of **approximately 0 (or 0.1) cm²**.

- **This will be a true open source project and sure will attract many.**

- **A means to contribute for a good course by inspiring the genie in all.**

There are 6 zoom in levels to give the most accuracy needed.

		Accuracy in CM²
$Zoomin_{n=1} = y/32 * x/32 = 1243.9km * 310.7km = 3.86*10^5 \ km^2$		$\approx 1.21 * 10^{14}$
$Zoomin_{n=2} = y/32 * x/32 = 38.87 * 9.71 = 377.4 \ km^2$		$\approx 1.18 * 10^{11}$
$Zoomin_{n=3} = y/32 * x/32 = 1.215 * 0.303 = 0.368 \ km^2$		$\approx 1.15 * 10^8$
$Zoomin_{n=4} = y/32 * x/32 = 0.0379 * 0.00946 = 3.5 * 10^{-4} \ km^2$		$\approx 1.09 * 10^5$
$Zoomin_{n=5} = y/32 * x/32 = 0.00118 * 0.000295 = 3.48 *10^{-7} \ km^2$		$\approx 1.09 * 10^2$
$Zoomin_{n=6} = y/32 * x/32 = 0.0000368 * 0.00000922 = 3.0 *10^{-10} \ km^2$		$\approx 9.4 * 10^{-2}$
$Zoomin_{n=7} = y/32 * x/32 = 0.00000115*0.0000002881=3.3*10^{-13} \ km^2$		$\approx 3.3 * 10^{-3}$

This will only apply if the $KT_{(c,r=8,8)}$ respectively making the rectangle a perfect square

1243.9 km * 310.70 km

STEP 1. Address to GPS or WSG84 coordinate conversion

2X28+73
34 00' 02.6" N 18 02 05.3 W

N

W

E

S

Why "Soul-C" ?

There is a need to empower people by protecting, personalizing and privatizing data. Some call it EP3 initiative. This includes all the features of blockchain technology plus de-addressing of accounts in both public and private networks.

If you save a string referencing an address you are in fact not saving the actual address. Certainly, this will rebut GDPR (right to forgotten). More so, non-provisioned regions of the globe could be identified easily as this application will do the heavy lifting of converting these coordinates.

It is more accurate in comparison to other application of its genre: **Approximately 0.1 cm^2 accuracy.**
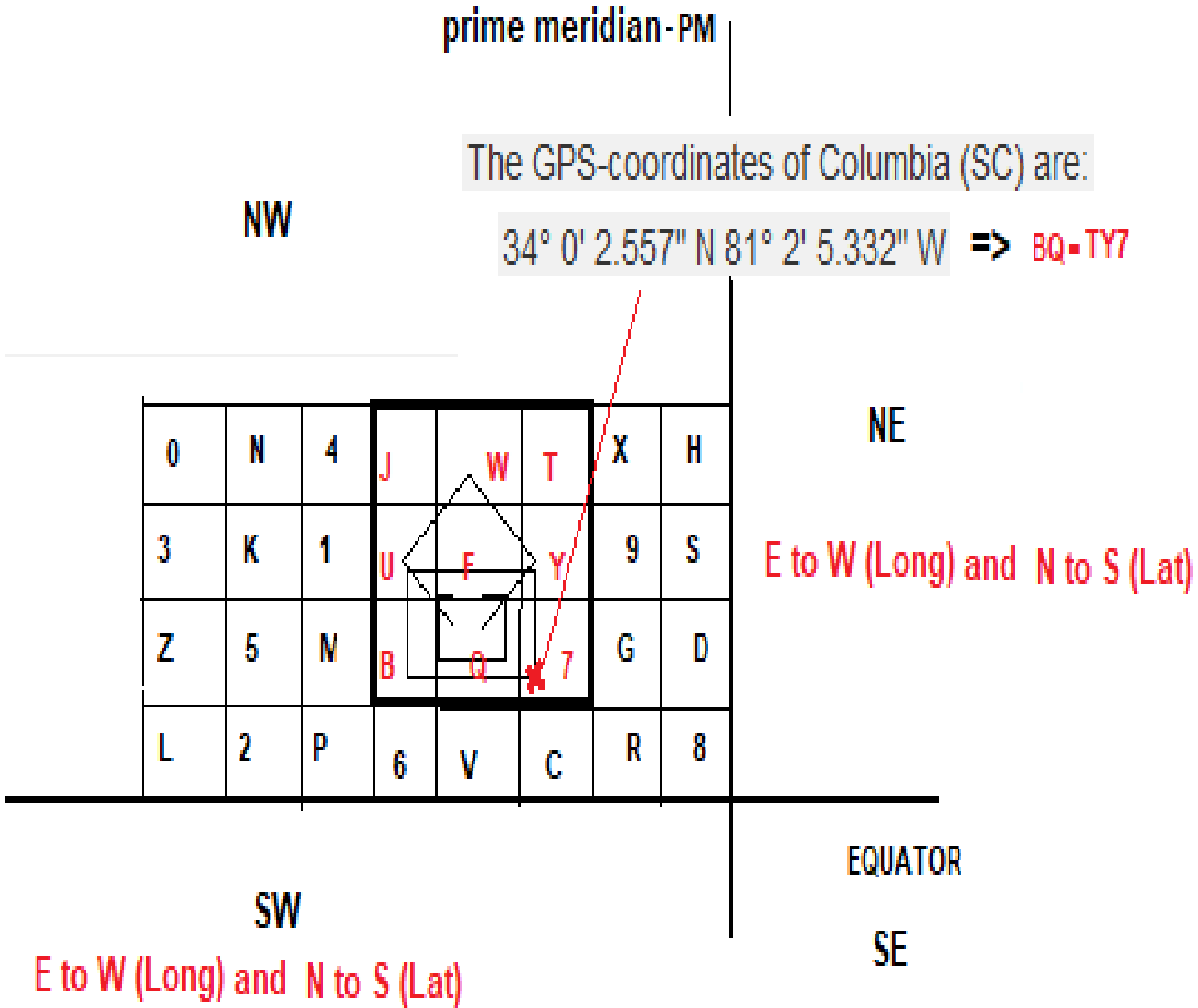
Practical Values

The values arise from partitioning the globe into Montana state land sizes:

- Street address for people who don't have one.
- Accuracy in land capture and acquisition.
- Compliance with GDPR (the right to forgotten).
- De-addressing via futuristic zipping method (SOLC).
- Uses in public blockchain for fulfilling location capture

What we are looking for:

- **Scientists (computer)**
- **Engineers (software)**
- **Mathematicians (with coding flare)**
- **Application developers (web, mobile and desktop)**
- Experienced web developers
- Able to commit, create branch and clone on gitlab or github
- Able to use https://app.clickup.com or jire project management tool
- Experienced with offshore engagements
- Good understanding of geodesy and geodesic coordinates
- Team player and somewhat independent person, requiring less supervision
- Someone that can adapt to ever changing environment. You will learn a lot and you will have our reference.
- *(Experienced IOS and Android developer are accepted).*

prime meridian - PM

The GPS-coordinates of Columbia (SC) are:

34° 0' 2.557" N 81° 2' 5.332" W => BQ - TY7

NW

NE

0	N	4	J	W	T	X	H
3	K	1	U	F	Y	9	S
Z	5	M	B	Q	7	G	D
L	2	P	6	V	C	R	8

E to W (Long) and N to S (Lat)

EQUATOR

SW

SE

E to W (Long) and N to S (Lat)

What we will build (stages):

- GPS or WSG84 coordinate identification

- Converting address to coordinate and coordinate to address

- Create a seeding mechanism (KT generator)

- Create base32 code template by mapping it to KT index

- Create zoom in functions for 5 levels

- Create a naming function using the algorithm, Region, State, County, City, house

- Put all this together as a web application then mobile application for android and IOS.

- APIs and other web services

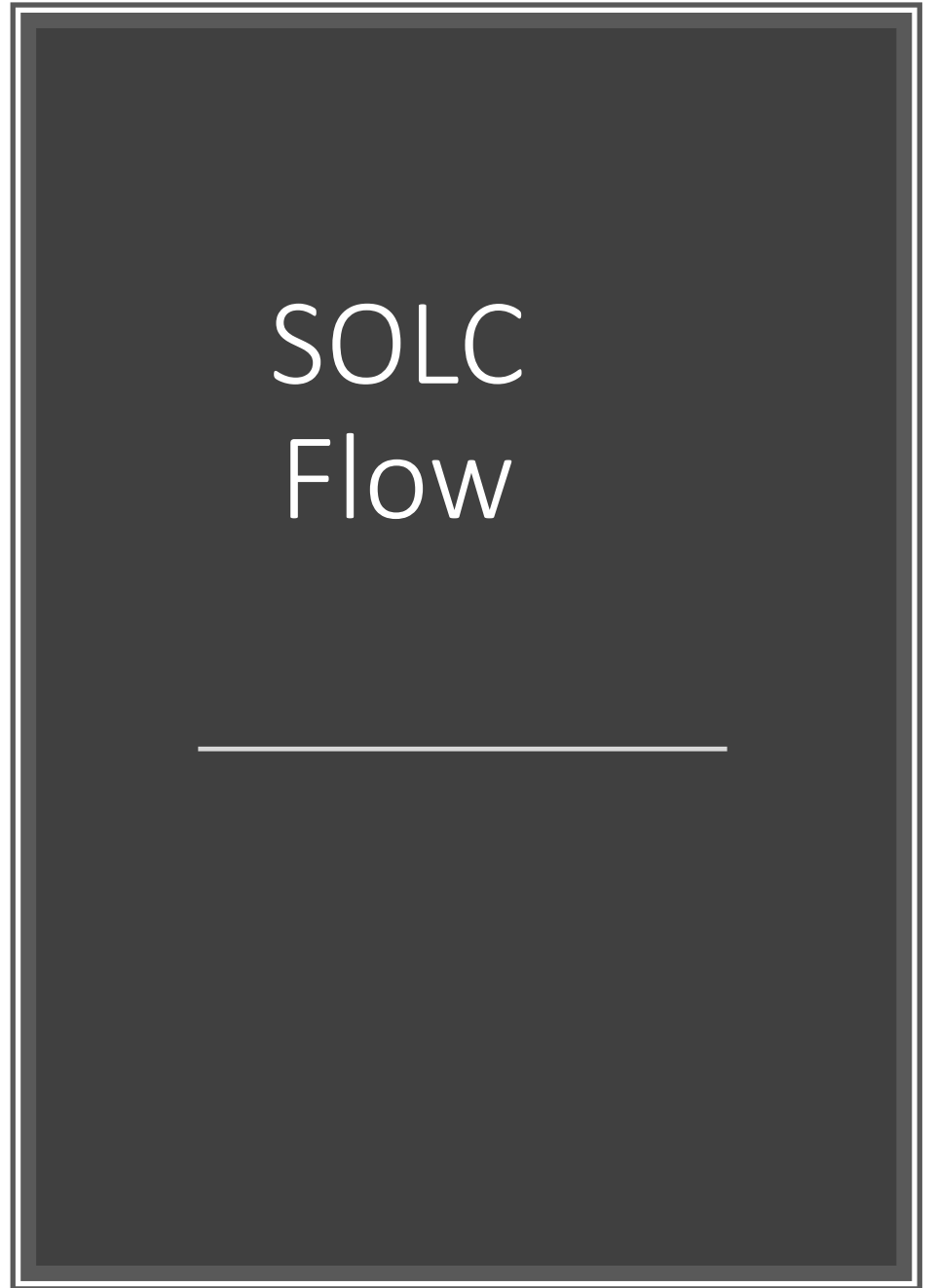- Creating UI/UX – -Eye popping and friendly
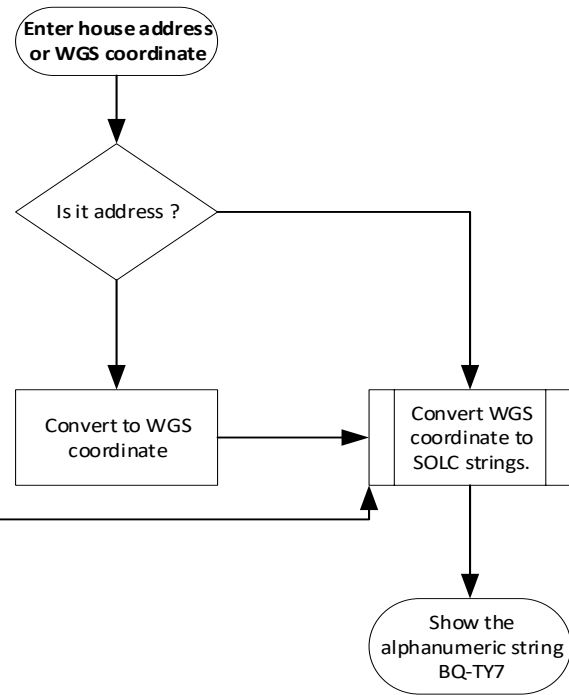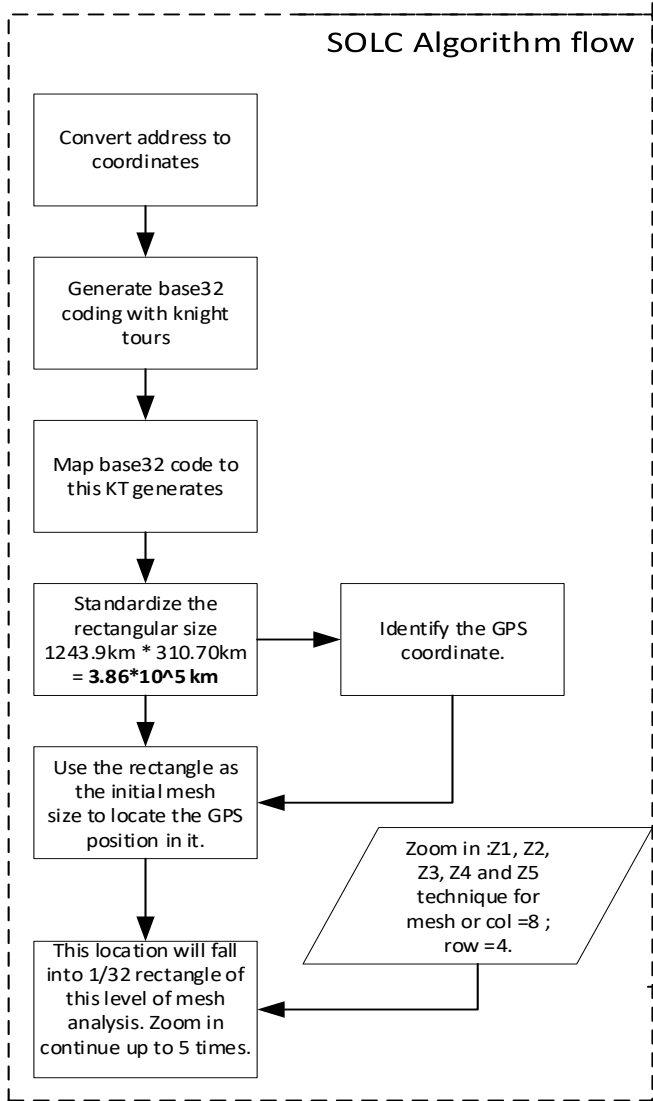
How it works

- B -> Country
- Q -> State
- -   -> Direction (West or south)
- T -> Country
- Y -> State
- 7 -> County, city and locale

❑ BQ-TY7

Needed languages and framework

Languages	Java, python, HTML 5 (CSS)

Framework	Django framework

Mobile development IDE	Android studio	Xcode

SOLC Algorithm flow

Convert address to coordinates

↓

Generate base32 coding with knight tours

↓

Map base32 code to this KT generates

↓

Standardize the rectangular size 1243.9km * 310.70km = **3.86*10^5 km**

→ Identify the GPS coordinate.

↓

Use the rectangle as the initial mesh size to locate the GPS position in it.

↓

This location will fall into 1/32 rectangle of this level of mesh analysis. Zoom in continue up to 5 times.

Zoom in :Z1, Z2, Z3, Z4 and Z5 technique for mesh or col =8 ; row =4.

Enter house address or WGS coordinate

↓

Is it address ?

Convert to WGS coordinate

→ Convert WGS coordinate to SOLC strings.

↓

Show the alphanumeric string BQ-TY7

SOLC Flow

Other related applications:

- https://en.wikipedia.org/wiki/Open_Location_Code

These are accurate to only 3.5 meter square.

Be a part of something you love don't just make things. Create something that was never possible.

Be a part of something great!!!

Feel free to contact us. jumezurike@lokdon.com