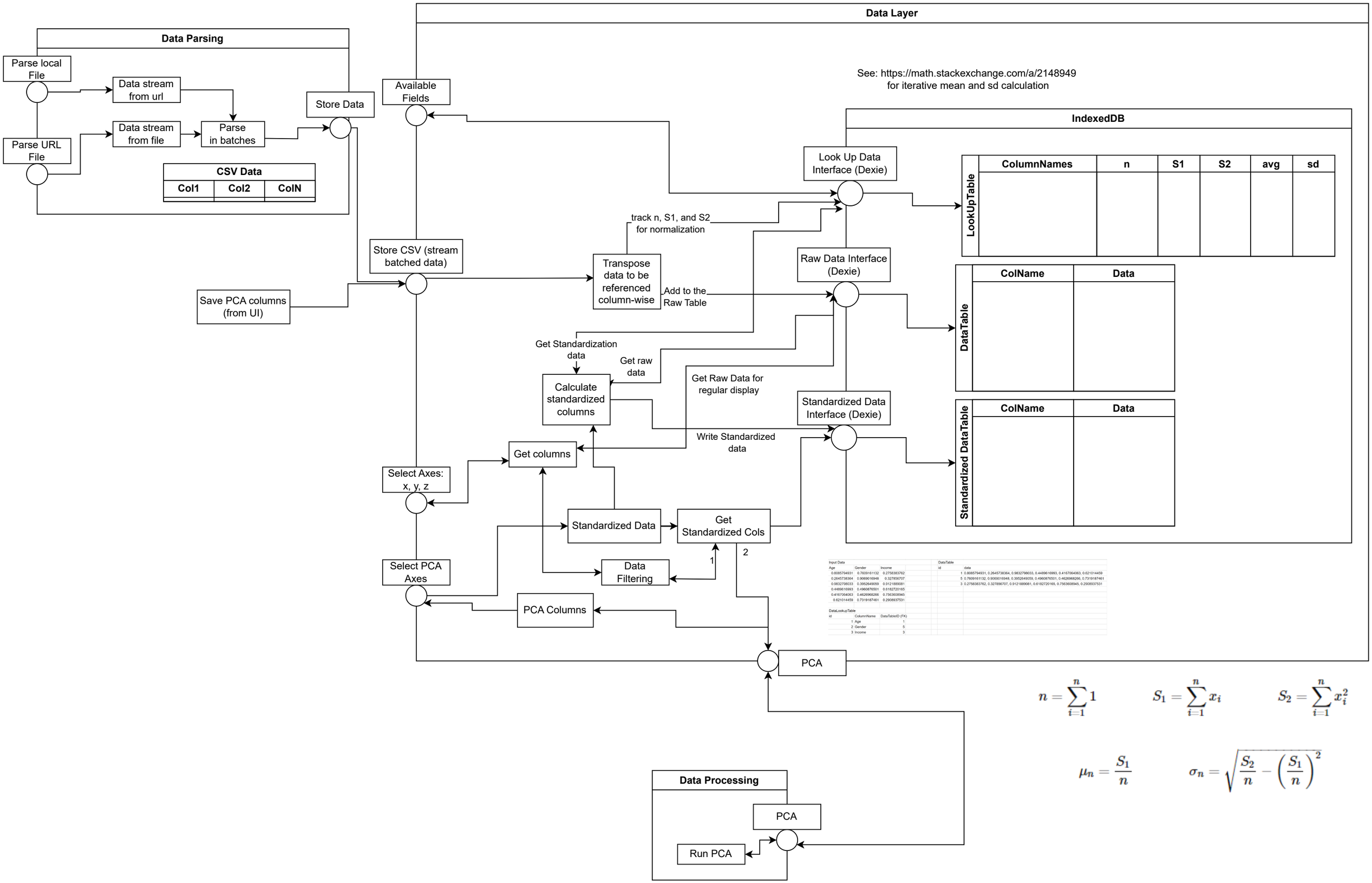
Data Layer
Data Parsing
Parse local File
Data stream from url
Parse URL File
Data stream from file
Parse in batches
CSV Data
Col1
Col2
ColN
Store Data
Available Fields
See: https://math.stackexchange.com/a/2148949
for iterative mean and sd calculation
IndexedDB
Look Up Data Interface (Dexie)
LookUpTable
ColumnNames
n
S1
S2
avg
sd
track n, S1, and S2 for normalization
Store CSV (stream batched data)
Transpose data to be referenced column-wise
Add to the Raw Table
Raw Data Interface (Dexie)
DataTable
ColName
Data
Save PCA columns (from UI)
Get Standardization data
Get raw data
Get Raw Data for regular display
Calculate standardized columns
Standardized Data Interface (Dexie)
Write Standardized data
Get columns
Select Axes: x, y, z
Standardized Data
Get Standardized Cols
1
2
Select PCA Axes
Data Filtering
PCA Columns
PCA
Input Data
DataTable
DataLookupTable
Data Processing
PCA
Run PCA
$n = \sum_{i=1}^{n} 1$
$S_1 = \sum_{i=1}^{n} x_i$
$S_2 = \sum_{i=1}^{n} x_i^2$
$\mu_n = \frac{S_1}{n}$
$\sigma_n = \sqrt{\frac{S_2}{n} - \left(\frac{S_1}{n}\right)^2}$