**Context**

* Create a knowledge base containing ops sheets
  + Ops sheet are images that contain traffic phase plans
* So that AI / deterministic approaches can refer to previous phase plans and recommend new phase plans when people draw up new ops sheet

**How to do it?**

**Part 1**: Extract the data from the ops sheet

Either:

* Manually populate the data from the ops sheet (geometry, roads, t junction etc) into a csv file (or parquet file)
* Or use OCR to extract the data (harder, ops sheet format is not consistent)

**Part 2**: Upload the data into a database

* Upload the manually extracted data into a database
  + Postgres, snowflake, s3.
  + Or just a folder in your laptop
* Also upload the ops sheet itself as part of the data

**Part 3**: Create a web app

* A website where the user can enter the geometry of the TCP (whether it’s a t junction, how many lanes etc etc)

**Part 4**: Query the data

* Based on the user inputs in the web app, the relevant phase plans can be queried from the database and returned to the user
* How to query:
  + Deterministic approach (deterministic: if this geometry and this rule, return this data)
  + AI approach: fine-tune a model on all the relevant data so that it can recommend the best phase plan.
    - Which AI to use:
      * either the AI chatbots from LTA (it supports basic RAG but)
      * Or fine-tune a model and run locally.

**Part 5**: return the data to the user

* What kind of data will be shown to the end user
  + Either:
    - the most relevant existing ops sheet can also be shown to the user in the phase plan.
    - The “raw” data of the phases
    - Actually draw out a phase plan using python / other software (unsure how it will work)

**Timeline:**

~2 to 3 weeks to do a completely barebones POCs using:

* 20~30 ops sheet,
* simple website,
* and the database is just a local folder to see
* AI model without any finetuning, just few shot prompting.