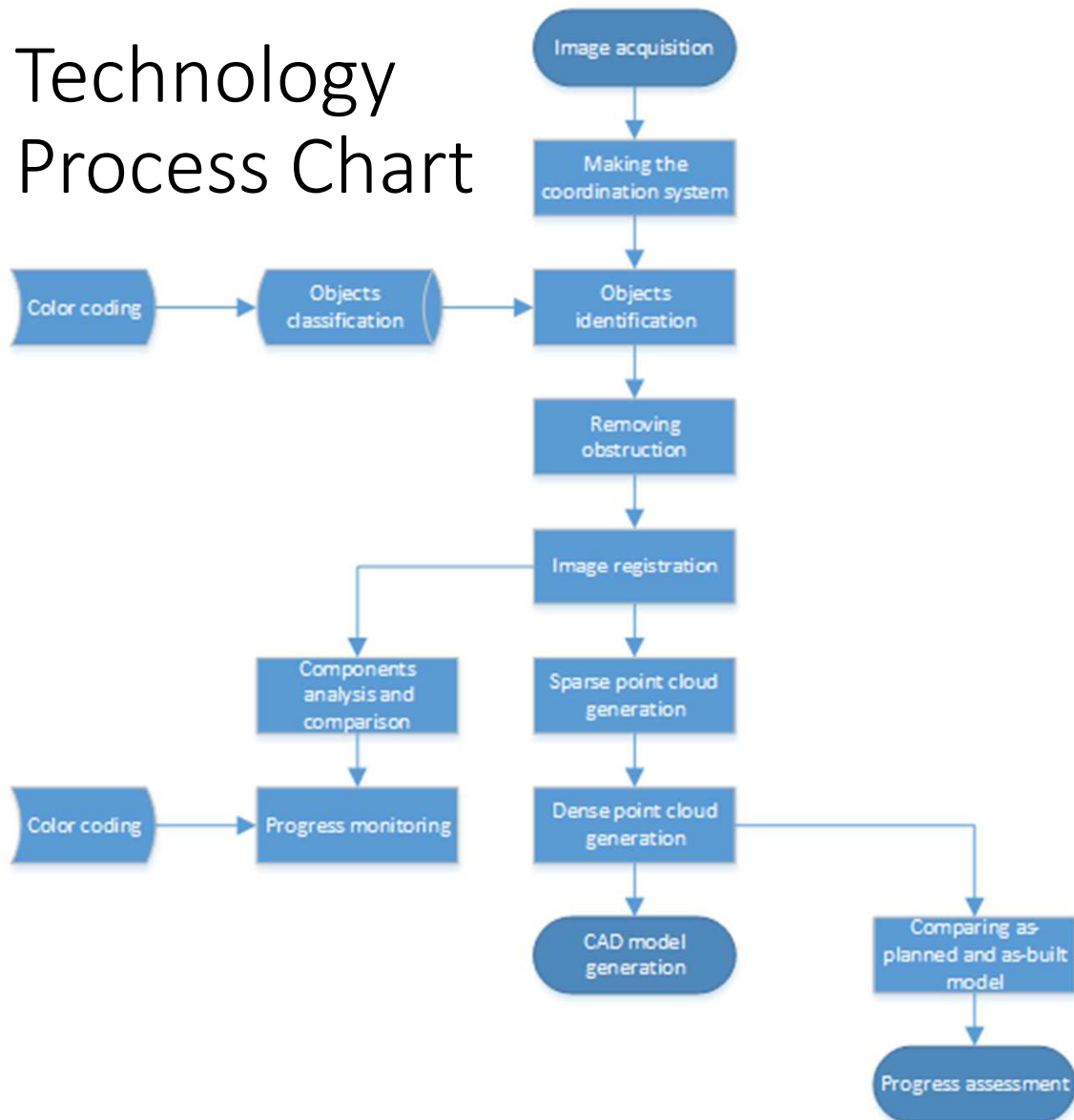# Construction Progress Monitoring

Current Problem or Opportunity

- Progress monitoring and documenting is essential in all construction projects. About 1% of a typical gross budget of a construction project is set for the monitoring the construction activity. The site managers spend between a third to half of their time on on-site data collection and analysis.

- Construction managers can become overwhelmed by rapidly increasing data from various teams, and find it difficult to properly follow the project progress.

- Another widespread challenge is to prepare as-built drawings. Adjustments are inevitable in construction projects, making the plans revision a requisite. As-built information is generally obtained by manual inspection.

- At the moment, the commonly used method to track the project progress is through visual check and manual recording. This is a time-consuming process with possible human errors and high labor costs.

Solution / Innovation

- Our solution is automating the construction progress monitoring using image processing and Artificial Intelligence technique and integrate them into a legacy construction management software to address the issues mentioned above.

- In our technique, the most recent changes can be tracked using a material-based image retrieval process and comparison methods. In this way, any progress will be traced and documented for the purpose of evaluation.

- The images can also be compared with the pre-defined plans for each project step, leading to a drawing that highlights the distinction between what has been done and what should have been done up to a certain point. This technique removes human interaction within comparing the current state of a construction project with a 3D as-planned model.

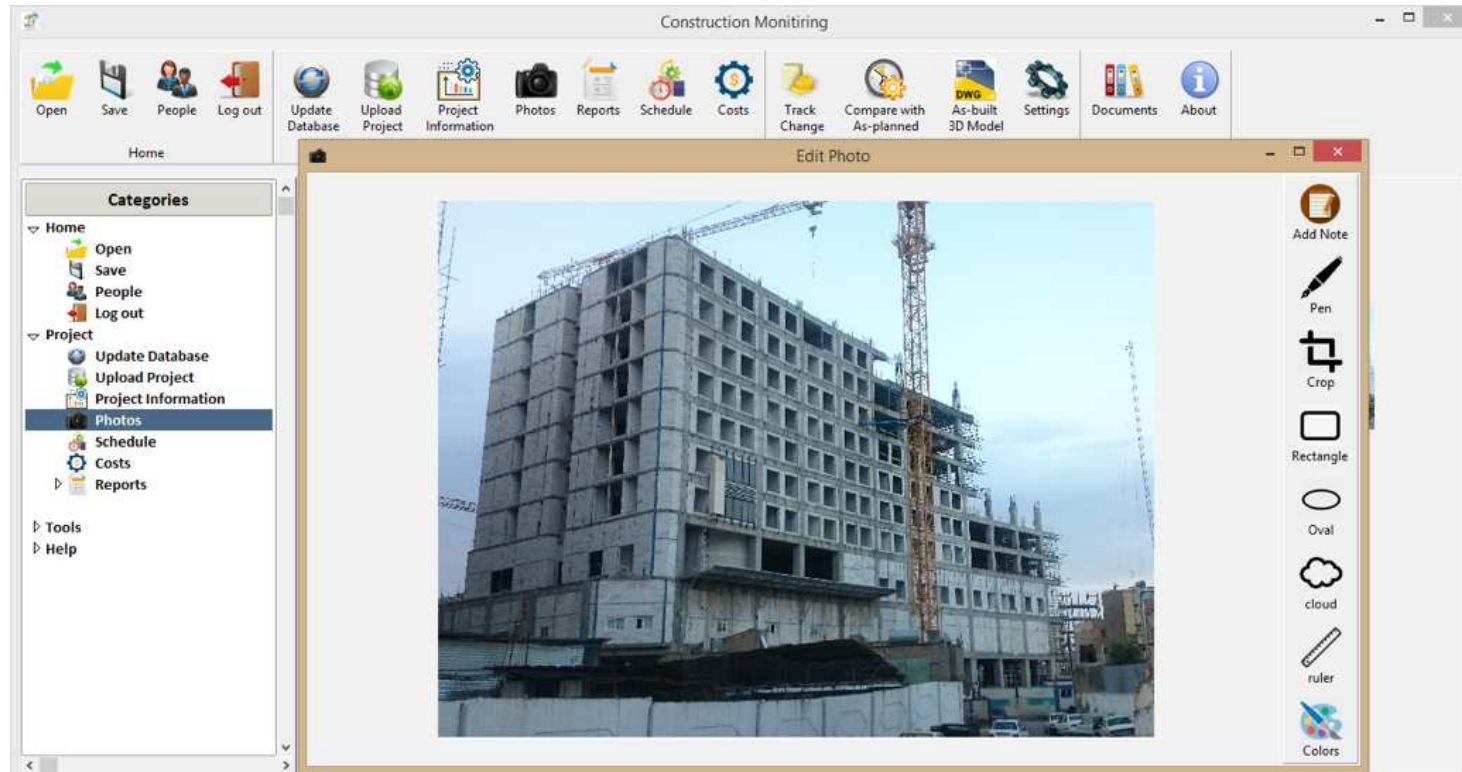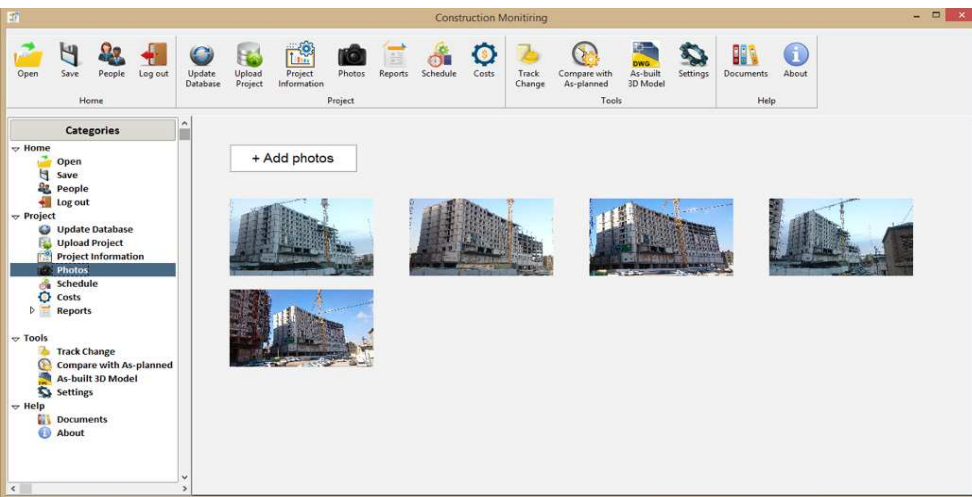# Technology Process Chart

Object Recognition

Field track software

- Photos
  - uploading and downloading of project photos
  - secure and unlimited photo storage
  - capture, store, and share photos from a smartphone, tablet, or computer
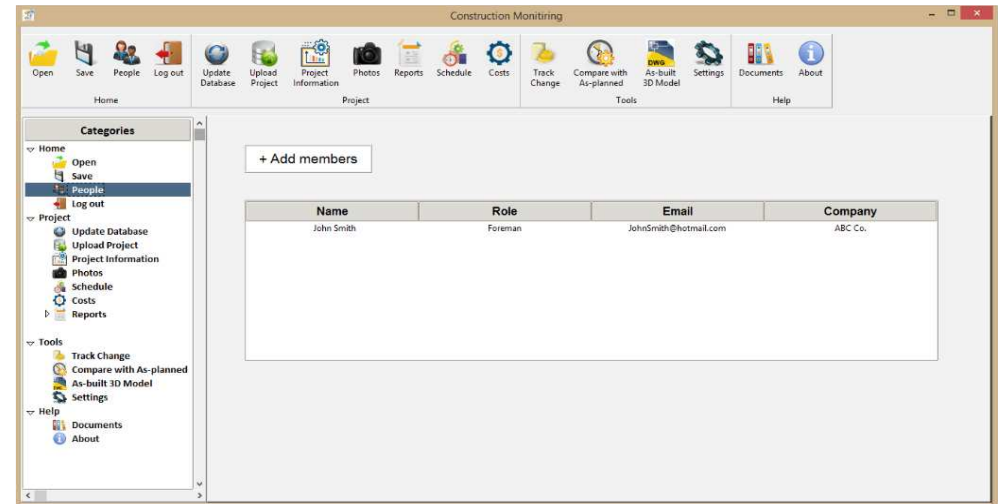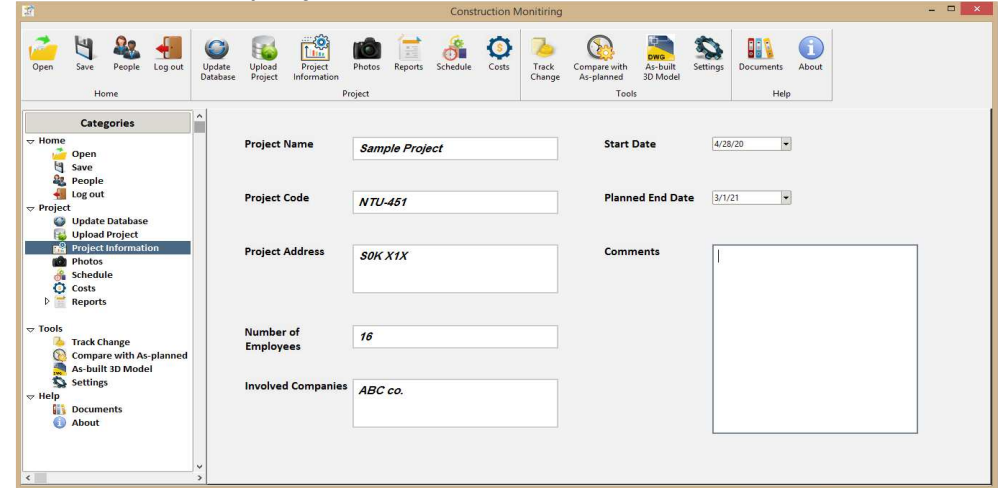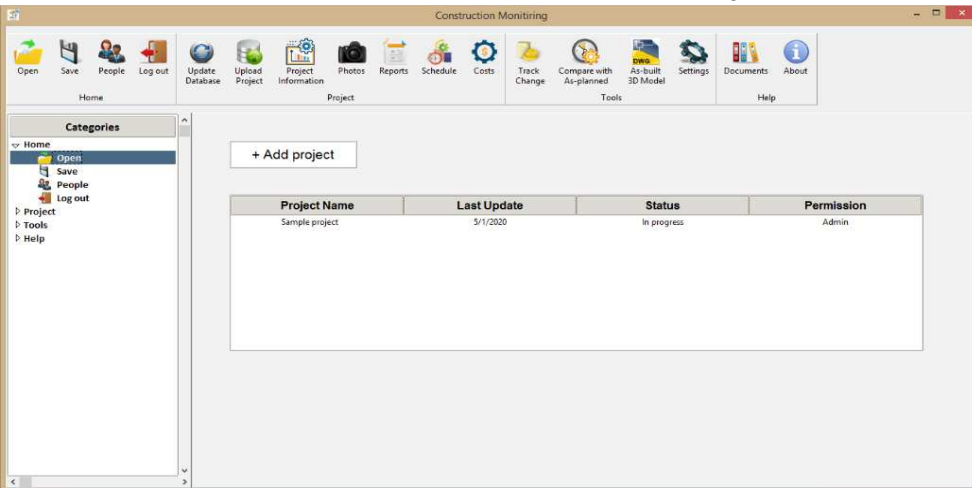 - permission settings

Field track software

Photo gallery of the project

Project members

Project information and define new project

Field Track Android App Features