ENGINEERING SERVICES

ASSET SYSTEMS MANAGEMENT

Asset Management - System Planning ♦ Systems Analysis - Engineering/Modeling and Technical Support

CMOM SCIP Models

Phase 1: SCIP Tool

To	SCIP Team
From	Arnel Mandilag
Date	April 17, 2012
Project	ESEN000021/ESEN000022, Functional Area PUENDEMS000000BE (Maintenance Support)
Subject	Use Cases

Revised By	Date	Reason
A. Mandilag	4/17/2012	Initial Draft

1 Glossary

Alternative: the combination of input data set and results from model calculations. The input data set has different data than the live data set.

Individual Result: the result calculations for a single pipe. It includes all the drivers pertinent to the pipe, the controlling driver, next activity date, and costs for performing the next activity.

Live Data Set: the last loaded data set, as refreshed from source data tables.

Systemwide Result: the result calculations that include all pipes' individual results, as well as the aggregated results (by activity and by year).

2 Client Use Cases

2.1 Needs Assessment

Description: The main tangible product will be a needs assessment that consists of:

Fiscal Year (FY) 2013-2024 Inspection, Root Management, and Cleaning Activities. For each FY, present the following:

- A list of pipes and the controlling driver, divided per activity type and per basin of the expected activities

- A total cost per activity type and per basin

Summaries for one PM cycle, starting FY 2013. Present the following:

- Total cost per activity type and per basin
- Pie chart describing partitioning of activity type for entire PM cycle

User Procedure:

1. User requests needs assessment from ASM.
2. ASM processes the request using the model UI.

2.2 Gail's Database for Her Processing Tasks

Description: Gail will need a database (or some other list product, such as text file or spreadsheet) that contains results from the model run so that she can process her own queries. This list will include

- Pipe COMPKEY
- Pipe Upstream and Downstream Nodes
- Controlling Driver
- Non-Controlling Drivers

Due to the many-to-one relationship between drivers and pipes, this listing may have to be provided in the form of two related tables, or denormalized into a single table that contains potentially multiple records (representing drivers) for each pipe.

User Procedure:

1. User requests database from ASM.
2. ASM processes the request using the model UI.

2.3 Record of Grease Cleaning vs. Grease Management Areas

Description: John has requested an overlay of grease cleaning activity versus Grease Management Areas.

User Procedure:

1. User requests map from ASM.
2. ASM processes the request as a map request.

3 Tool Use Cases

3.1 Calculate Individual Result

Description: User wants to know the controlling driver, non-controlling driver, next date of activity, and cost of activity for an asset.

User Procedure:

1. User selects input data set (live or alternative).
2. User clicks on the pipe feature of interest.
3. User wipes any results for pipe and stores new results.
4. A window shows the information desired.

3.2 Calculate Systemwide Results

Description: User wants to know the results for one PM cycle.

User Procedure:

1. User requests Systemwide Results from UI.
2. User selects input data set (live or alternative).
3. User determines whether to refresh data (See 3.3)
4. UI calls routines to calculate systemwide results.
5. UI wipes any results and stores new results.
6. UI displays the following available reports: systemwide costs by activity; systemwide costs by basin; systemwide activity counts, activity counts by basin

3.3 Refresh Input Data

Description: User needs to refresh the input data for calculating results.

User Procedure:

1. User requests to refresh input data from UI.
2. If any results were calculated from the current live input data, ask whether to archive (see 3.4).
3. UI refreshes input data. Results cleared.

3.4 Archive Input Data and Results

Description: User needs to archive the input data and results.

User Procedure:

1. User requests to archive input data from UI.
2. User enters name for archive input data. UI defaults to date of load for input data.

3.5 Set up Alternative Input Data

Description: User requests to create a new alternative input data set.

User Procedure:

1. User requests to create new alternative from UI.
2. User enters name for alternative.
3. UI fills in driver parameters and presents them to the user for changing.
4. UI provides list of exceptions (e.g., accelerated cleaning list items) and presents them to the user for changing.

3.6 Change Driver Parameter

Description: User needs to change the name, frequency, or cost for a driver.

User Procedure:

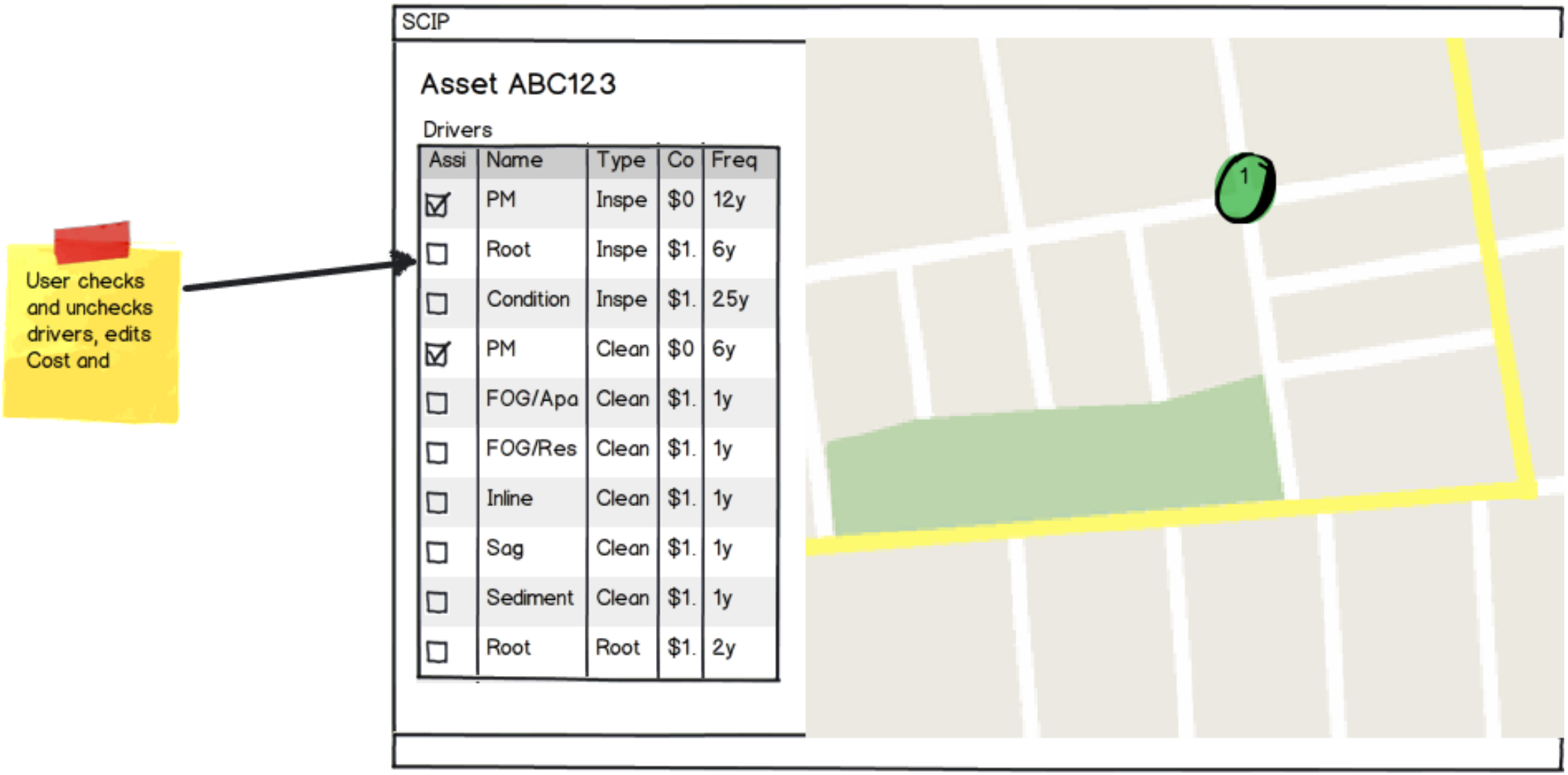
1. User requests to change drivers
2. UI displays the list of drivers and their names, frequencies, and costs
3. User changes drivers and clicks OK
4. UI recalculates systemwide results (if available) or any individual results (if available)

3.7 Change Driver Assignment

Description: User needs to assign a driver to a pipe or delete a driver from a pipe

User Procedure:

1. User clicks a pipe
2. UI shows assigned drivers and available drivers to user in a grid
3. To add: user selects an available driver and clicks checkbox
4. To delete: user selects an assigned driver and clicks off checkbox


SCIP
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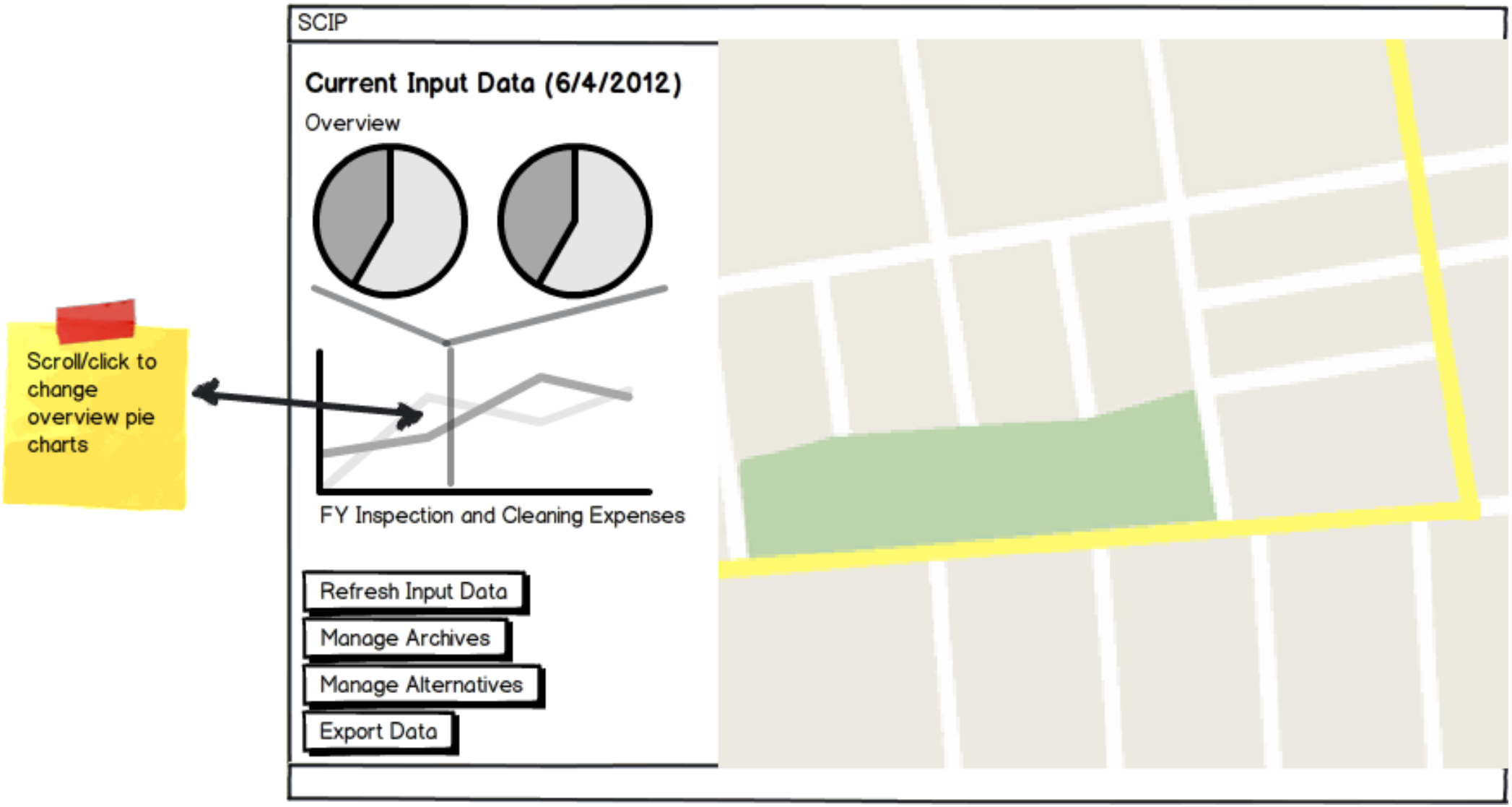
1
User checks and unchecks drivers, edits Cost and


SCIP
Current Input Data (6/4/2012)
Overview
FY Inspection and Cleaning Expenses
Refresh Input Data
Manage Archives
Manage Alternatives
Export Data
Scroll/click to change overview pie charts