

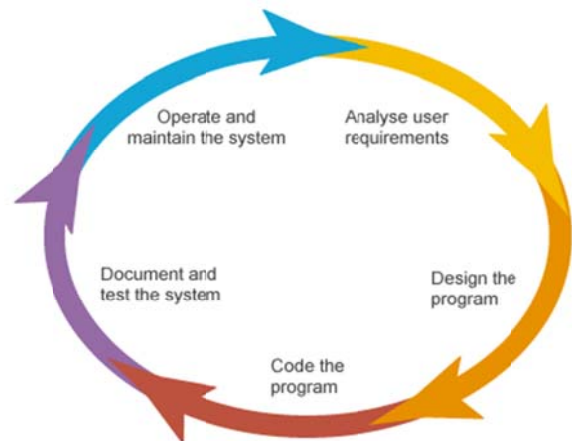
## Assignment #2: Planning a Graphical User Interface

**Due Date: Friday, 9/9/2011 by start of class**

*Purpose:* This purpose of this exercise is for you to gain experience in linking functional requirements of an application to the interface to be used in that application.

**Step 1:** Read the attached *functional requirements* document for the City of Winston Salem app. This document contains both a narrative describing the overall intended use of the application to be developed, as well as a list of functional requirements for the app. The list of functional requirements has been truncated so we can focus for the moment on the GUI components of the application. A functional requirement specifies each function that the application must support to satisfy the client. It does not specify how such functionality should be implemented, or constraints on speed or security.

We are in an early phase of the *software development life cycle* for our application. The image at right shows a common representation of the software life cycle, which involves: *understanding the user requirements, program design, program development, program testing, and program maintenance*. We are currently within the first two stages: *analyse user requirements & design the program*.



**Step 2:** For each of the eight functional requirements listed in the attached document, do the following:

- Name an Android GUI view component which would be suitable for implementing that function
- Give a brief (1-2 sentence) explanation of why that component is appropriate for the intended functionality

**Step 3:** If any requirements are unclear to you, list those requirements and indicate why they are unclear. Otherwise, write N/A for this question on your solution. *It is common for there to be a few rounds of 'requirements clarification' before the requirements for an application are finalized.*

### Background

The City of Winston-Salem Utilities division uses advanced mobile technology to maintain city assets. Crews travel throughout the county doing corrective and preventive maintenance on an extensive infrastructure of sewer lines, water lines, streets, etc. Once a crew reaches a site for repair, the crew leader uses a laptop computer and customized application to wirelessly request/receive a particular work order from our enterprise work management system. When the job is finished, the crew leader enters completed work order information (i.e. labor, equipment and materials) and submits the updated work order back to the enterprise work management system.

### Problem

After a crew has finished a job, they do not have the capability to see if there are other open work orders in the same general area. This lack of information keeps the crews from efficiently completing localized work and reduces the productivity of the crew.

### Scope

Create an Android application that utilizes a web service to request open work orders from the work order enterprise database. The application will use specific parameters to request work orders that are open and in the same general area of the crew.

## Functional Requirements (Initial Subset - GUI)

- 1.1.1 Allow users to select the work order priority (High[default] Medium, Low).
- 1.1.2 Allow users to select the work order type (Types TBD).
- 1.1.3 Allow users to select the geographical radius for work orders (default 1/2 mile).
- 1.1.4 Display map with markers representing open work orders of the specified type.
- 1.1.5 Display list of work orders of specified type.
- 1.1.6 Allow users to select whether to show work orders as list or on a map.
- 1.1.7 Given selection of a particular work order, display the details of the work order.
- 1.1.8 Allow the user to select the center point for the search radius by entering an address.