Setting up the dtkeden Planimeter Models

Charlie Care

October 2004

1 Introduction

A number of models of planimeters have been produced by the author during his third year project. This document provides instructions for running and using two models designed to run on dtkeden. These models are known as *model1* and *model2* and are run in a framework of three `dtkeden` sessions.

The instructions refer to running the models on a standard dcs workstation. The models are written in Eden and require the `dtkeden` to run. The screenshots used refer to the model 1.

2 Downloading the models

The eden scripts are downloaded as a `.tar.gz` archive file which needs to be extracted to a local directory. This command can be done with the program `tar`. For example:

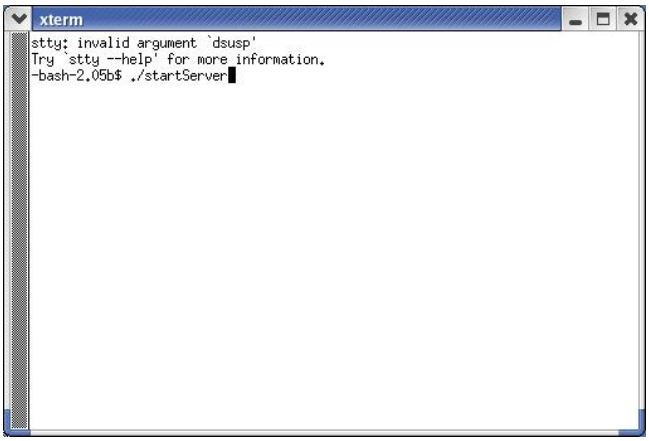
```
tar xvzf model1.tar.gz
```

3 Starting the models

1. Change the working directory to the directory containing the models (e.g. `cd model1`).
2. Open three terminal sessions.

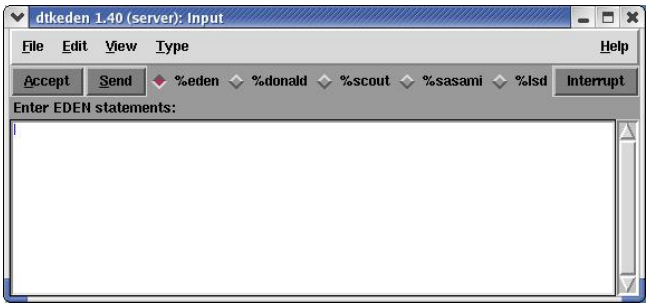
   ```
   xterm &
   xterm &
   xterm &
   ```

3. In the first terminal run the script `./startServer`



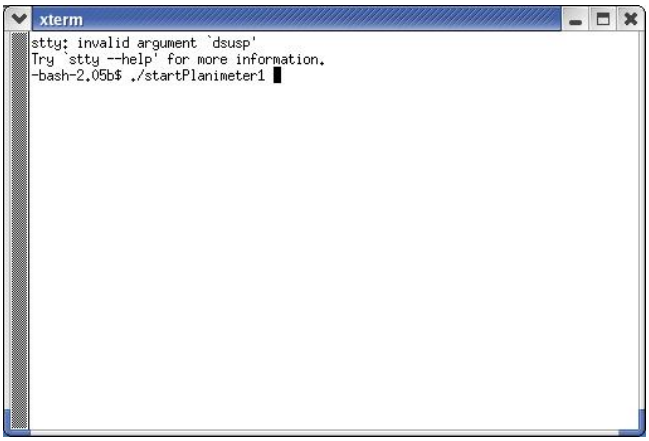
Starting the server

This will open a dtkeden session that will act as a server for other dtkeden agents. Each dtkeden session has a input window (as pictured below) these are not necessary for just running the model and can be minimised.



The `dtkeden` input window

4. In the second terminal run the script to start the planimeter. This is either named `./startPlanimeter1` or `./startPlanimeter2` depending on which model you are running.

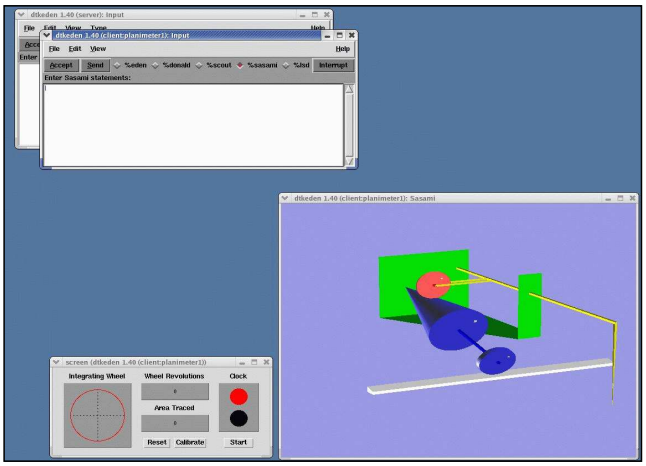


Starting the planimeter

5. This script will load another dtkeden in client mode and request the user to login. This login provides the client with an agent name and should be either `planimeter1` or `planimeter2` (depending on which of the two models is being run).

Logging into dtkeden as planimeter

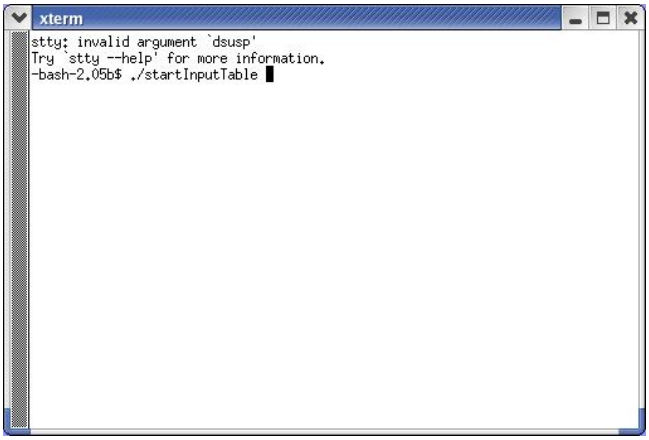
The user should now have two dtkeden input windows, a planimeter control panel (this has a traffic light style control on the right of the window) and a 3D visualisation of a planimeter.



The planimeter windows

It will be necessary to adjust the zoom and viewing angle of the 3D display. Zoom is controlled by moving the mouse with the right hand button depressed and panning is controlled by moving the mouse with left hand mouse button depressed.

6. In the final terminal run the script `./startInputTable` to set up the input Table. This window allows the mouse to control the position of the planimeter's pointer.

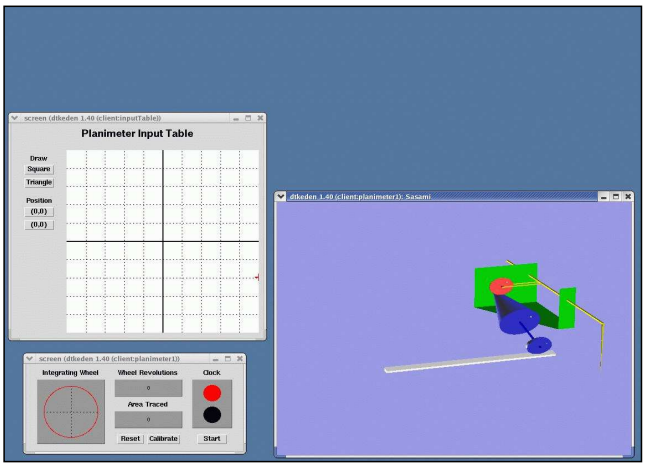


Starting the input table

7. Log in with the agent name `inputTable`

Logging into dtkeden as inputTable

8. Now the model should be set up and ready for interaction.



The model with all windows set up

4 Common difficulties

4.1 Difficulties using openGL

If the following error occurs then re-boot the workstation.

```
Error: Could not open /dev/nvidiactl because the permissions
are too resticitive.  Please see the FREQUENTLY ASKED QUESTIONS
section of /usr/share/doc/NVIDIA_GLX-1.0/README for steps
to correct.
```