PULSE@Parkes Session Setup

— Jonathan Khoo

1 Preparation

1. Notify receptionist that a school is is coming and what time they are expected.
2. Collect the 4 laptops (black Dell bags), 4 monitors, and the plastic container (filled with cords, connectors, etc) from Rob Hollow's office (Room 33).

2 Connecting the Laptops

2.1 Observing Table (inside lecture theatre)

The observing table is in the middle of the lecture theatre. Laptops 1 and 2, and their corresponding two monitors connected via the docking stations, are situated as below:

- Monitors
    1. Power cable (black connector): monitor ⇒ power-board. (x4)
- Laptop 1 and Laptop 2 (each):
  2x monitor cables (1x WHITE DVI, 1x BLUE VGA), 1x docking station, 1x power (adaptor) cable, 1x LAN cable (blue/pink), 1x keyboard, 1x mouse, 1x mousepad.
    1. Place the laptop on top of the docking station—you should hear a click.
    2. Monitor cable (white DVI ends): docking station ⇒ monitor. (x2)
    3. LAN cable (Laptop 1 — blue cable, Laptop 2 — pink cable): docking station ⇒ theatre podium. Longer LAN cables can usually be found in the drawer under the podium.
    4. Keyboard ⇒ docking station (USB port).
    5. Mouse ⇒ docking station (USB port).
    6. Power cable: docking station ⇒ power-board (found in container).
    7. Turn on laptop by pressing the power button on the docking station (which should be illuminated).
    8. Ensure monitors are set to correct outputs. I.e., if you have connected the monitor via a DVI cable, select the DVI output mode on monitor.
    9. Configure screens appropriately by right-clicking on the desktop ⇒ "Properties" ⇒ "Settings"

  Note:
  Laptop 1 — blue LAN cable
  Laptop 2 — pink LAN cable + VNC

2.2 Data Analysis Table (outside lecture theatre)

The table outside the lecture theatre is where the data analysis takes place with laptops 3 and 4.

- Laptop 3 and Laptop 4:
  1x power cable, 1x mouse, 1x mousepad.
    1. Power cable: laptop (back left) ⇒ power-board.
    2. Mouse: ⇒ laptop (USB port — right top).

3 Login Details for Laptops

Username: pulse
Password: B0833+45
Domain: (local machine)

Laptop 1 — blue cable

Left Screen — showtel

1. If VNC server for showtel has not been started:

   ```
   % ssh pulsar@pavo
   pulsar@pavo's password: PULSAR_PASSWORD
   % vncserver -geometry 1915x1140
   % exit
   ```

2. VNC Viewer:
   start ⇒ All Programs ⇒ RealVNC ⇒ VNC Viewer 4 ⇒ Run VNC Viewer

   Server: dish0-pa:0 / Password: d1sh_64m ⇒ OK

3. If showtel has not been started:

   ```
   % showtel
   ```

Right Screen — TCS

1. If VNC server for TCS has not been started:

   ```
   % ssh pulsar@pavo
   pulsar@pavo's password: PULSAR_PASSWORD
   % vncserver -geometry 1915x1140
   % exit
   ```

2. VNC Viewer:
   start ⇒ All Programs ⇒ RealVNC ⇒ VNC Viewer 4 ⇒ Run VNC Viewer
   Server: pavo:*[0-9+]* / Password: PULSAR_VNC_PASSWD ⇒ OK

3. If TCS has not been started:

   ```
   % TCS
   ```

Laptop 2 — pink cable

1. VPN Client:
   start ⇒ All Programs ⇒ Cisco Systems VPN Client ⇒ VPN Client

   Connection Entry: CSIRO ATNF Marsfield
   Host: vpn.atnf.csiro.au

   Group Authentication:

   Name: Pulse at Parkes / Password: Vela

   Username: pulsar / Password: PSR0833-45

Left Screen — Display the pulse-profile and the chat log

1. Firefox ⇒ http://outreach.atnf.csiro.au/education/pulseatparkes/student_observer.html

Right Screen — Skype and webcam

1. Attach the webcam to the top of the monitor, facing the current observing students.
2. Webcam ⇒ docking station (USB Port).
3. Left side of the screen: Run Skype. Video call (Skype account: Username: pulseatparkes-observer / Password: Vela) with astronomer (pulseatparkes-astronomer) at Parkes.
4. Right side of the screen: display the webcam of the Dish.
   (a) Firefox ⇒ *http://pkswebcam01.atnf.csiro.au:8080*
   (b) Video Source ⇒ *Channel : 1*
   (c) Video Size ⇒ *Large*

Laptop 3 and Laptop 4 — Wireless Network Connection

1. Enable wireless connection: Laptop (left - middle) wireless switch.
2. Right click ⇒ Wireless icon (bottom - right) ⇒ Open Intel PROSet/Wireless
3. Select network: <SSID not broadcast> where its authentication method (right click ⇒ properties) is: WPA2-Enterprise.
4. Enter (NEXUS) username and password appropriately.
5. Firefox ⇒ *http://pulseatparkes.atnf.csiro.au/distance*

4 Projectors

Touch theatre screen to turn it on.

Left Projector — Laptop

1. LAN Cable: Laptop (back right) ⇒ desk/podium.
2. Monitor Cable ⇒ Computer VGA Port (desk/podium).
3. Power Cable: Laptop (back left) ⇒ Power Socket (desk/podium).
4. VPN Client:
   start ⇒ All Programs ⇒ Cisco Systems VPN Client ⇒ VPN Client

   Connection Entry: CSIRO ATNF Marsfield
   Host: vpn.atnf.csiro.au

   Group Authentication:
   Name: Pulse at Parkes / Password: Vela Username: pulsar / Password: PSR0833-45

   - Right-click ⇒ *Graphics Options* ⇒ *Display* ⇒ *Notebook + Monitor*
   - Right-click ⇒ *Graphics Properties* ⇒ *Display Settings* ⇒ *Screen Resolution* ⇒ *1900x1200*

   On the Theatre touch-screen:

   - *Video* ⇒ *Centre Projector* ⇒ *Centre VGA*
5. VNC Viewer — TCS:
   start ⇒ All Programs ⇒ RealVNC ⇒ VNC Viewer 4 ⇒ Run VNC Viewer
   Server: [pavo|orion]:*[0-9+]* / Password: PULSAR_VNC_PASSWD

6. VNC Viewer — Showtel:
   start ⇒ All Programs ⇒ RealVNC ⇒ VNC Viewer 4 ⇒ Run VNC Viewer
   VNC Viewer ⇒ Server: [pavo|orion]:*[0-9+]* / Password: PULSAR_VNC_PASSWD

Right Projector — Theatre PC

Video ⇒ *Right Projector* ⇒ *Theatre PC*

Home ⇒ expand the target computer ⇒ login (NEXUS domain)

1. Display the Parkes webcam in the upper section of the screen.
   - Firefox ⇒ *http://pkswebcam01.atnf.csiro.au:8080*
   - *Video Source* ⇒ *Channel : 1*
   - *Video Size* ⇒ *Large*
2. Display pulse-profile and chat on the lower section of the screen.
   - Firefox ⇒ *http://outreach.atnf.csiro.au/education/pulseatparkes/student_observer.html*

Shutting down:

- *Video* ⇒ *Centre Projector* ⇒ *Power off*
- *Video* ⇒ *Right Projector* ⇒ *Power off*

5 Astronomer @ Parkes

1. Open chat window as astronomer.
   - Firefox ⇒ *http://outreach.atnf.csiro.au/education/pulseatparkes/astronomer_login.html*

6 Miscellaneous

Adding a new school

1. Open */nfs/wwwresearch/pulsar/pulseATpks/session*
2. Retaining the file's format, append:

   ID: XXXX
   DATE: DD−MMM−08 ==========

Clearing the chat log

In the (usual) case of spam, the chat log for the student_observer.html page must be cleared.

```
% ssh pulsar@atlas
pulsar@atlas's password: PULSAR_PASSWD
% cd /export/www/vhosts/outreach/htdocs/education/pulseatparkes
% mv session_1.log [filename]
% touch session_1.log
% exit
```

Starting background script on Lagavulin

```
% ssh pulsar@lagavulin
pulsar@lagavulin's password: PULSAR_PASSWD
% cd /psr1/pulseATpks
% ./pap.csh [school number]
```

Printouts

For each pulsar observation, these files are produced and transferred to */nfs/wwwresearch/pulsar/pulseATpks/*:

JXXXX[−|+]XXXX.[*Group ID*].[*Observation Number*].4channels.txt
JXXXX[−|+]XXXX.[*Group ID*].[*Observation Number*].8channels.txt
JXXXX[−|+]XXXX.[*Group ID*].[*Observation Number*].gif
JXXXX[−|+]XXXX.[*Group ID*].[*Observation Number*].ps

Printouts of the pulse-profiles are given to each student. This command will print the pulse-profile to the printer located in room 82 :

lpr -PEPPI-B1LG-82-HP4200 JXXXX[−|+]XXXX.*[Group ID].[Observation Number]*.ps

Skype Accounts

Two Skype accounts are used for the video-link between the observing students and the astronomer at Parkes:

- pulseatparkes-astronomer / Vela
- pulseatparkes-observer / Vela

Theatre Lights

The controls for the lights is located at the entrance closest to reception. Slide the bars up/down to the desired level.

Troubleshooting

Background script not running

Symptom: no ticks are appearing next to pulsars in the Student Data Archive. If (for whatever reason) the P@P background script has not been running during the P@P session, these steps should be followed to ensure the P@P data gets processed and copied to Epping so that the students can use the P@P modules with their data.

1. Determine school identifier - go to the Student Data Archive and note the current number.
2. Determine P@P observations.

   ```
   $ hostname
   lagavulin
   $ ls -lrt /nfs/PKCCC3\_1/*.rf
   ```

   Make a note of which files have been observed during the P@P session (by time).
3. Check for multiple observations of the same pulsar.

   ```
   \$ vap -c name <list of P@P pulsars>
   ```

4. Run finishObs (script to process the data and transform it into the format required for the P@P modules).

```
$ cd /psr1/pulseATpks
$ ./finishObs <filename> <session identifier> <observation number>
```

E.g. if /nfs/PKCCC3_1/s123456_789012.rf is the 2nd observation of pulsar J1234-5678, observed by school 21, then the finishObs command is:

```
$ ./finishObs /nfs/PKCCC3\_1/s123456\_789012.rf 21 2
```