

Group/Individual Projects

Here are a few group and/or individual projects that LUG members may like to get involved with. They are a way for the LUG to say thank you to the rowing club for the monthly use of the facilities as well as good ways to put our collective skills to good use. It is also a good way to get practical experience for those looking to branch out into new areas.

The first couple are aimed at improving the infrastructure in the club house and the others are aimed at assisting with the running of Durham Regatta (technically a separate volunteer run organisation from the rowing club) over the weekend of 10, 11 & 12 June 2016.

In the first instance I'll act as contact with both organisations (I'm a member of both) and ensure that those volunteering are put into contact with the right people.

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Information Display

A Visitor Information Display in the lobby of the Rowing Club.

Key Features

- Configure a Raspberry PI as a captive portal information display system.
- The existing TV display in the Bar area will be re-purposed to use as the display.
- Provide a back-office system for club/regatta staff to update the display as appropriate.

Description

The Rowing Club is replacing the current TV and would like to re-purpose that as an information display screen. It is likely that additional nodes would be added in the future either within the clubhouse or along the regatta course.

Tasks

- Select/setup a suitable software package to provide the information display. It is anticipated that this will be web-based. A quick look suggests that Concerto, <http://www.concerto-signage.org/overview> might be suitable but nothing is set in stone and a custom solution could be adopted too.
- Eventually the package will likely get installed on the club's webserver probably in an LXC virtual host running Debian. But initial configuration/testing should be done on a standalone PC, maybe using LXC, and the install transferred once ready.
- The display should ideally use a Raspberry PI (we have a few available). This should be configured to launch direct from boot and is not expected to have a keyboard/mouse available during normal operation.
- It would be useful to be able to remotely direct the information display to an external page at times to display racing results/information on race days. If this could be controlled from the backoffice package this would be ideal.

Priority

No hard deadline. However the club expects to replace the TV during January so it would be nice to do this ASAP.

Clubhouse Wired Network

Install additional RJ45 ports at various locations around the clubhouse.

Key Features

- Pull cables from the patch panel cupboard and install/test RJ45 sockets.

Description

A few volunteers required to help install some additional cabling at the boathouse. This should be fairly simple and is a good learning opportunity. We have cable testing kit and the tools required to do the job.

Tasks

- Work with clubhouse staff to install additional cables.
- May also relocate the weather station to the other end of the building at the same time. The existing location falls foul of the building steelwork and the rain gauge signals don't get through very well. <http://www.durham-arc.org.uk/weather/summary/>

Priority

No definite timeframe but a weekend in January/early February would seem most suitable depending on bookings in the diary.

Riverside Network

Configure, build and maintain a riverside network over the Durham Regatta weekend in June.

Key Features

- 3 primary sites: Rowing Club, Regatta Start Area, Baths Bridge/Finish Area.
- Wired/wireless networks at each site.
- Sites connected via long range, directional wireless access points.
- The areas away from the Rowing Club rely on temporary power supplies.

Description

The Regatta team rely on a number of computer applications to run the annual regatta in Durham. In order to facilitate this a network is operated across the site with a link to the wider internet via the broadband connection at Durham ARC clubhouse.

The basic setup has been proven and the majority of the equipment has already been purchased and a basic configuration performed.

The equipment based at Durham ARC is permanently installed and wired into the club house infrastructure.

Both Start and Baths Bridge areas are not suitable for permanent installation and are setup at the regatta weekend. The Start Area uses a diesel generator/UPS to provide power. It is anticipated that the Baths Bridge area will use 12V car battery/invertors to provide a suitable power supply.

Tasks

- Test equipment/configuration in the weeks leading up to the regatta.
- Perform final setup/testing on the Friday afternoon/evening before the regatta.
- Install/configure equipment before racing begins each morning (it is not safe to leave equipment in the open overnight due to vandals) prior to racing. Start area network required roughly 1 hour before racing begins. Finish area network required roughly 20 minutes prior to racing.
- Be on hand during the racing day in case a problem arises.
- Remove equipment after racing completes each evening.

Priority

This task is essential for the regatta to proceed and having an independent group who can take on the responsibility to configure/setup leaves the core regatta team to concentrate on preparing the racing itself.

Regatta Desktop Systems/Printers

Configure, setup and manage a number of desktop linux systems with attached printer in the Regatta Start area.

Key Features

- 2 or 3 Linux desktops in the portacabins in the Regatta Start area.
- The primary use of the desktops is to access a number of web applications that are accessible over the regatta network. Hence a web browser is the key application. Libreoffice would be a useful tool too.
- USB printer attached to one of the desktops which is available to other computers via the network. If possible it would be good to have it exported in a manner that is usable by Windows/Mac computers that maybe in the same location.
- Equipment powered by a diesel generator with UPS available for key components.

Description

The regatta uses a number of oldish computers to record racing results/progress and to distribute paper copies of these results to officials as well as to publish results via various online services (Twitter and similar).

A basic Ubuntu installation was performed by the Durham LUG in 2015. This will need checking prior to the annual regatta and in particular the printing capabilities will need revisiting to ensure that the printer is supported and accessible via the network.

Tasks

- Test/Refresh equipment/configuration in the weeks leading up to the regatta.
- Perform final setup/testing on the Friday afternoon/evening before the regatta.
- Equipment is to be located in the portacabins in the Start area. It can be left in situ over the whole weekend because the cabins are secure with regular on-site security patrols.
- It would be good to have on-site support during the weekend but this could be provided as part of a group effort along with the other group projects.

Priority

This task is essential for the regatta to proceed and having an independent group who can take on the responsibility to configure/setup leaves the core regatta team to concentrate on preparing the racing itself.

Regatta Equipment Officer

Prepare/Control equipment allocations throughout the regatta weekend.

Key Features

- Prepare equipment packs for officials.
- Charge/Allocate/Distribute/Reclaim portable radios.
- Be on hand to handle any equipment issues that arise during the day.

Description

A decidedly non-technical role. Basically ensure that the equipment packs are prepared for each official as per the equipment allocation lists. Ensure that these are distributed as appropriate and handle any breakdowns/flat batteries as they crop up.

This would be ideal to combine with the network/PC role over the weekend and a couple of people could easily rota themselves and have a pleasant weekend in a deckchair with refreshments provided!

Tasks

- Check equipment in the weeks leading up to the regatta and ensure that there is a sufficient supply of batteries for megaphones and similar items.
- Make up officials packs (may require some laminating on the eve of the regatta) and label as appropriate.
- Ensure that portable radios are received from the supplier, signed out to officials and received back/returned at the end of the regatta.
- Be on hand over the regatta weekend to handle any issues that arise. This mainly involves replacing flat batteries.

Priority

This task is essential for the regatta to proceed and having an independent group who can take on the responsibility to configure/setup leaves the core regatta team to concentrate on preparing the racing itself.

Regatta Telephone (VOIP) System

Configure and setup a VOIP system that provides a number of extensions at key locations around the regatta site.

Key Features

- Onsite VOIP PABX connected into the regatta wired/wireless network.
- Extensions provided at Start, Finish, Commentary, Results, Regatta control and other key points around the site.
- Magic extensions/feeds to capture commentary, starter and finish PA system traffic. Provide access to said traffic via conference call numbers or similar.
- If possible record the conference call traffic for post-regatta use to resolve any queries regarding individual races.
- Ideally a silent/visual call notification for the commentator's extension to avoid interference with commentary traffic.
- Medium term – would like this extended to allow communication with umpires locations downstream of Elvet Bridge.

Description

The regatta uses handheld radios to communicate between various locations. These work well but have some problems due to range and use in locations where excess noise (near the commentary microphones) can cause problems.

A few locations would benefit from a continuous broadcast of traffic from start/finish/commentary microphones to allow remote locations to monitor traffic and to record information without having to rely on radio operators to transmit information at the right moments.

Tasks

- Setup a suitable VOIP system in the weeks leading up to the regatta. Possibly using something like a Raspberry PI to provide the PABX (but may need something bigger for conference/recording).
- Some equipment already exists but has never been setup fully. As such there is really a blank canvas to suggest what additional equipment is required and to work out a suitable software suite to provide the PABX feature set.
- Install/configure equipment before racing begins each morning (it is not safe to leave equipment in the open overnight due to vandals) prior to racing. Start area network required roughly 1 hour before racing begins. Finish area network required roughly 20 minutes prior to racing.
- Be on hand during the racing day in case a problem arises.
- Remove equipment after racing completes each evening.

Priority

This task is a nice to have but is not essential for the regatta to proceed.

Additional Projects

The following are decidedly non-essential but are nice to have. If someone has a burning desire to give one a go we can go into more detail.

- Extend regatta network downstream below Elvet Bridge. It would be useful to have good connections at the Long Course finish by Count's House and also at Kingsgate Bridge. The former would help with results gathering and the latter would be useful to help to hook an additional long course commentator into the commentary system.
- Video/still picture feeds from start/finish. Useful to help resolve queries after the fact and also to allow some ability for regatta control to monitor things. Longer term this could be developed into an online broadcast of the regatta.
- Commentary feed into Durham ARC clubhouse. For various reasons it is not possible to provide commentary speakers in the area adjacent to the clubhouse. But it would be nice to provide a feed within the clubhouse that is broadcast over the PA system in the hall etc. This would be a natural follow on from capturing the commentary feed in a VOIP system.