MERG West Midlands Area Group (W

Area Groups MERG Home Back to West Midlands Area Group AGrPresentations

Meetings 2025

Winter

PTP LTE

What it is and his modiû cations. Alan Turner

Raspberry Pi Pico

- Stewart Watkiss his venture using this popular board.

Spring

Standing on a Victorian Computer

(Presented by Tony Jackson

Tony explored the ingenious railway safety systems of the Victorian er
that assisted signalmen. His talk covered the interlocking of points an
Section system and how these principles can be applied by modellers.

Digital Logic

Presented by David Roberts(

Although PICs and other microcontrollers are commonly used today eve
still a valuable place for digital logic. David introduced the fundament
explained the more common logic families. He provided practical exam
gates can deliver useful functions for railway modellers.

Summer

A) Electrical Wiring for the Railway Modeller(Presented by David Rob
some of the theoretical aspects of wiring and then cover wire types an
The second part was more practical looking at wire termination and di
terminals and connectors. Finally, a few general recommendations wer

B) An introduction JAL.(Presented by Colin Mitchell

Just Another Language produces code for Merg s Pocket Money Projec
Combined with a low cost PIC programmer, this free software allows y
match your needs. Colin showed a simple program to û ash an LED and

Autumn

A) Digital Sound Modules Presented by David Roberts

David introduced digital sound modules and their use for railway mode
formats, explain the basics of sound modules, and highlight some read
concluded with a look at both static and dynamic sounds.

B) A Sound Suggestion Presented by Tony Chamberlain

Following on from Davey Dick s MERG Journal article on building a so
September 2024, p.21), Tony expanded on the ideas and share practic

October 2024

We were given two presentations in the morning.

Pocket Money Project

Colin Mitchell

Baby Steps in PIC

Andy Cumming

April 2024

We were given two presentations in the morning.

January 2024

We were given two presentations in the morning.

Module Interfacing Inputs & Outputs

David Roberts

What JMRI can do for you - Decode Pro

Simon West

Both talks can be viewed in the area group presentations section of th
here. https://merg.org.uk/merg_wiki/doku.php?id=helpsystem:presentatio

September 2023

We were given two presentations in the morning.

How to remove components

David Roberts

Raspberry Pi Pico

Colin Mitchell

Both talks can be viewed in the area group presentations section of th
here. https://merg.org.uk/merg_wiki/doku.php?id=helpsystem:presentatio

We donated £60 to the Canal Society for the use of the venue.

JULY 2023

We were given two presentations in the morning

Ask the Chairman

We were delighted to welcome MERG Chair, John Gowers. John talked
He also outlined the way forward and the committee's plans for the fut
with area group members took place

CBUS and Missenden St Mary

Pete Brownlow gave an in-depth talk and demonstration of CBUS on hi
Mary.

Once again, we thank our speakers for such comprehensive presentati
consistently support the area group. The money collected at the meeti
Canal Society for the use of the venue.

April 2023

We were given two presentations in the morning

Design Spark

Andy Cumming presented 'Design Spark' the free software available fr
allow users to develop design conception schematics that ultimately le
use on their model railway.

For those interested in using the software, there is a MERG Design Sp
base. This includes reference to a library containing many of the comp
details can be found here
https://www.merg.org.uk/merg_wiki/doku.php?id=pcblayoutsoftware:des

Sounds Right

Tony Chamberlain presented 'Sounds Right'. Constructing an Arduino-c
reasonably undemanding. Finding the sounds you want to use with the
situation, is less so. Tony's talk briefly outlined the processes used to
next-to-no cost and modify them to your requirements using Audacity s
downloaded from https://www.audacityteam.org/. For those unable to attend our meetin
me he intends to give the talk to our neighbours, MERG Warwick & Nor
the year.

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here https://merg.org.uk/merg_wiki/doku.php?id=helpsystem:presentatio

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January 2023

We were given two presentations in the morning by our Warwick and N
and MERG Education and Training Officer John Fletcher.

Universal Firmware

MERG Warwick & North Oxford AG Lead, Simon West, talked on univers
functionality of up to 16 input and output channels. He explained how
combined several module firmware, into one. Configuration of the firmw
Simon then proceeded to tell us what hardware could be used. ie CANM
(CANFLIM IO) but one should be mindful of the hardware capabilities o
input and output types. Two types of events were then introduced

Produced or happenings is an event the firmware sends in response to
status changes or achieved.

Learnt or consumed event causes an action to occur in the firmware i.e
operate a servo.

This was followed by an introduction to his test board (See photo) Sim
steps to configure the firmware:

Concluding his talk Simon, in the first instance, demonstrated how to s
adding LEDs, relays and servo movement position indicators.

In the afternoon session, he gave a hands-on practical demonstration
learning more about the firmware. Here are images of his test board ar

û rmware capabilities.

We thank John and Simon again for their support of our area group. (

Ardunio - latest developments

John explained that he wanted to make members aware of the wide ran Arduino and Raspberry Pi Pico boards. He reû ected on the talk he gav 2019 and described how much had changed since then. More powerful Pico (not an Arduino; can use Arduino IDE) More options to solve prob applications Arduino IDE Version 2 More Arduino SIG videos are in the outlined what activity had taken place with the MERG Arduino special introduced us to a hat or shield that is currently being prototyped and can be found in the presentation see the link below

John brought along his test rigs to the meeting, and in the afternoon s morning talk by explaining to members various elements and conû gura and the various options

October 2022

We were given two presentations in the morning by Andy Cumming and afternoon in our Show and Tell session.

My Layout

Andy gave us a presentation on the development of his model railway. days and what it is today. Andy described the successes and pitfalls o

My solutions

Andy's second talk focused on the solutions he developed whilst overc with his layout.

MERG Layout Control

David gave a short presentation on CBUS, EzyBus and PTP-Lite.

Once again we thank Andy & David for the work they have put in for th

July 2022

We were given two presentations at our July meeting.

MERG CANCAB Options

We were delighted to welcome the Warwick and North Oxford Area Gro
oû ered to talk on the MERG CAB options and particularly what will be
his own slightly larger version. It was a useful opportunity to get furth
version and views on pot operation vs. encoder.

An Introduction to Electrical Measuring and Te

Also, in the morning David Roberts presented An Introduction to Elect
This talk provided an introduction to electrical and electronic test equ
railway electronics. The equipment discussed ranged from the simple
specialist devices such as the logic probe and the oscilloscope. The p
Digital Multi Meter (DMM) is used to make various measurements.

In the afternoon David kindly oû ered to demonstrate some of the equip
presentation. Simon discussed with members various CANCAB options

And û nally, we were delighted to welcome back Peter Wilson and the s

April 2022

Train on Tack indicators (TOTIs)

Andy Cumming talked how he experimented with diû erent types of TOT
dedicated design. Using Design Spark, he explained the stages invol
outline and Gerber û le production readiness for PCB fabrication. And
lows of the process. The talk concluded with a demonstration of his w
see the CANPAN Test Panel displaying LEDS i.e., TOTI active and ina

Semaphore experience: a layman s guide over

Tony Chamberlain is well versed in semaphore signalling having been
early age (the bug never left him). He has recently stepped down from
the Severn Valley Railway. Tony's presentation commenced by explain
evolved. We were shown examples of various types of signals. Compo
physical locations alongside line side images and track layouts were d
complexities the signal faces where safety is the number 1 priority. Pe
intriguing images was that view from Severn Valley Railways Bridgeno
the only one in the country where you can see live elephants! Elepha
me.

Demonstrations

David Roberts gave the group a demonstration of three modules he has

A DCC Loco identifier originally developed by MERG member Duncan Green

identifier provides functionality that displays a locos identity at a butt
identifier may be built using an Arduino Uno and a motor shield this un
The output is displayed on a 4-row 20-character Liquid Crystal Display

DCC++ EX This is a complete wireless DCC command station built using a
module linked to a motor driver shield and a Wi-Fi module. This enable
throttle (iPhone) or Engine driver (android) to operate your layout
https://dcc-ex.com/get-started/index.html DCC++EX provides a simple and cost-effec
DCC control.

NB1 booster It is based on the MERG Kit. David built his version that also
cutout.

Design Spark Andy Cumming followed on his talk from the morning by dem
how to use the software to automated gate crossing. Colin Mitchell demonstrated
model of an automatic gate crossing.

CANPAN LED & Switch patch boards

Andy Cumming mentioned at our last meeting that he had some CANP
boards on order from the manufacturer. Andy tells me these have now

January 2020

So what is Arduino

David Roberts presented the Arduino in terms of the hardware most co
Modeller and the Integrated Development Environment (IDE). A look at
is included along with a very brief review of the standard interfaces.

October 2019

John Gowers gave a presentation about the mechanics of a steam engi
and apply them to your model railway

He also showed us how to insert sound chips into a loco. This was foll
captured sounds to the locos' movements and actions.

Here are some of the photos from the day.

July 2019

Electrostatic Discharge: What it is and Why it is Important

David Roberts gave a talk on what Electrostatic Discharge is, how it is
can cause to modern electronic devices and systems. Simple and aû or
problems were also described.

The Theory and Practice of a Simple MERG Kit

Some of us assemble kits without knowing very little about the types o
they are important. David s presentation considers a simple MERG kit
components used and explaining why they are chosen and how it all co

Here are some images of the day.

April 2019

What is Arduino and what can it do for railway modellers

David Thomas presented A CBUS Sound Player in which he explained
inspired by Davy Dick s sound player (See March 2017 journal and the
Forum). The set-up uses three main components: an MP3 player, an Ar
He then went on to explain how he conû gured the various sounds using
how the whole thing connected as a CBUS module.

Tony Jackson gave the second talk entitled A Magnetic Identity in wh
magnets to obtain the identity of a loco or vehicle (rather than only de
facilitate eû ective decisions regarding automating aspects of layout o
attaching magnets to the base of a loco or vehicle and passing in turn
represented a code that could be conû gured as a speciû c identiû er. I.e
conû guration. Tony then explained how he conû gured individual locos
then used an Arduino sketch to process the results and display the co

October 2018

Wiring and Power supplies for the Railway Modeller

David Roberts gave two talks in the morning.

The first one, following on from the wiring for the railway model included

" Theoretical aspects of electrical wiring " Design and implementation of wires, tools and terminations

His second talk was Power Supplies and explored:

" History " Direct Current (DC) Supplies " Linear Mode Supplies " Switched Power Supplies " Commercial Devices " Surplus Computer Supplies

July 2018

Howard Watkins was our keynote speaker.

The theme of our meeting was Back to Basics

AM - Two talks given by Howard included

- Theory and practice of Soldering. - Tools and Supplies - Component

PM - Practical 'HANDS ON' session in which we all had to build a track tester.

Back to West Midlands Area Group

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