



# Automotive Grade Linux Developer BoF Session

***Embedded Linux Conference***

*September 27, 2021*

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# What is AGL?

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*Collaborating to build the car of the future through rapid innovation*

- Open source Linux-based collaborative project
- Hosted at Linux Foundation
- Focused on rapid innovation of vehicle software using the AGL Unified Code Base

# AGL Unified Code Base

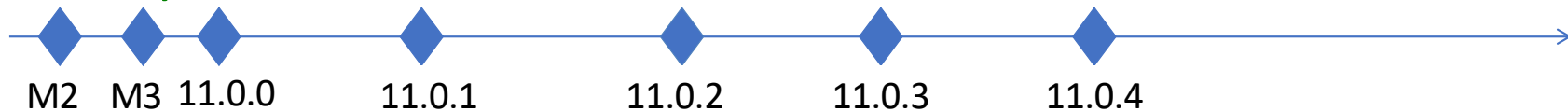
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- Develop a single open source software platform for the entire industry, reducing fragmentation
- Provide at least 70% of the base platform for production projects
- Cultivate an ecosystem of developers, suppliers, and automotive expertise all using a single platform
- Reference hardware and applications available for adaptation

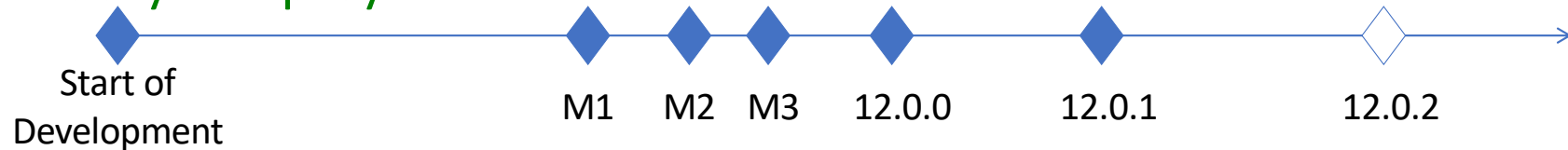
# 2021 AGL Schedule

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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## Kooky Koi

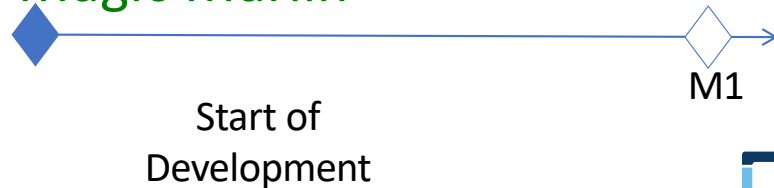


## Lucky Lamprey

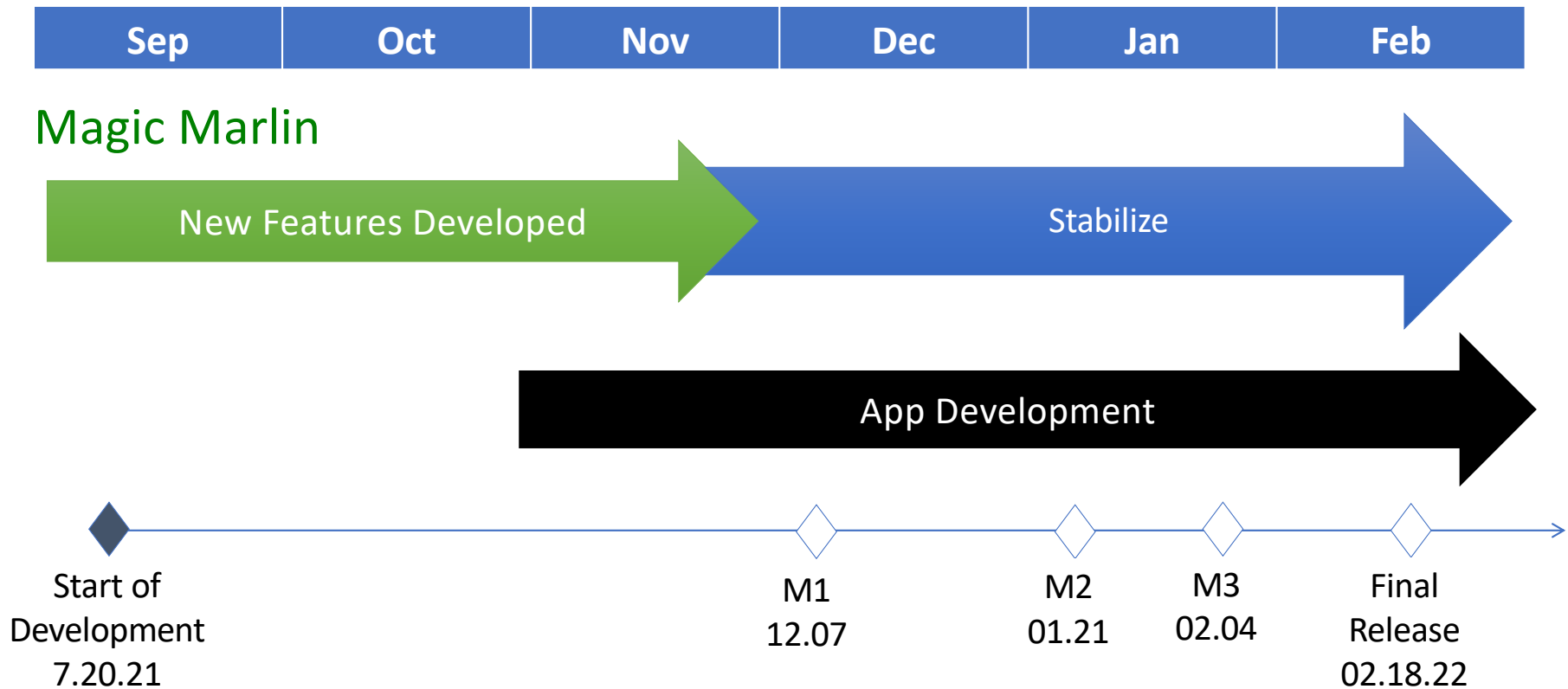


See [https://wiki.automotivelinux.org/schedule#latest\\_schedule](https://wiki.automotivelinux.org/schedule#latest_schedule) for latest schedule information

## Magic Marlin

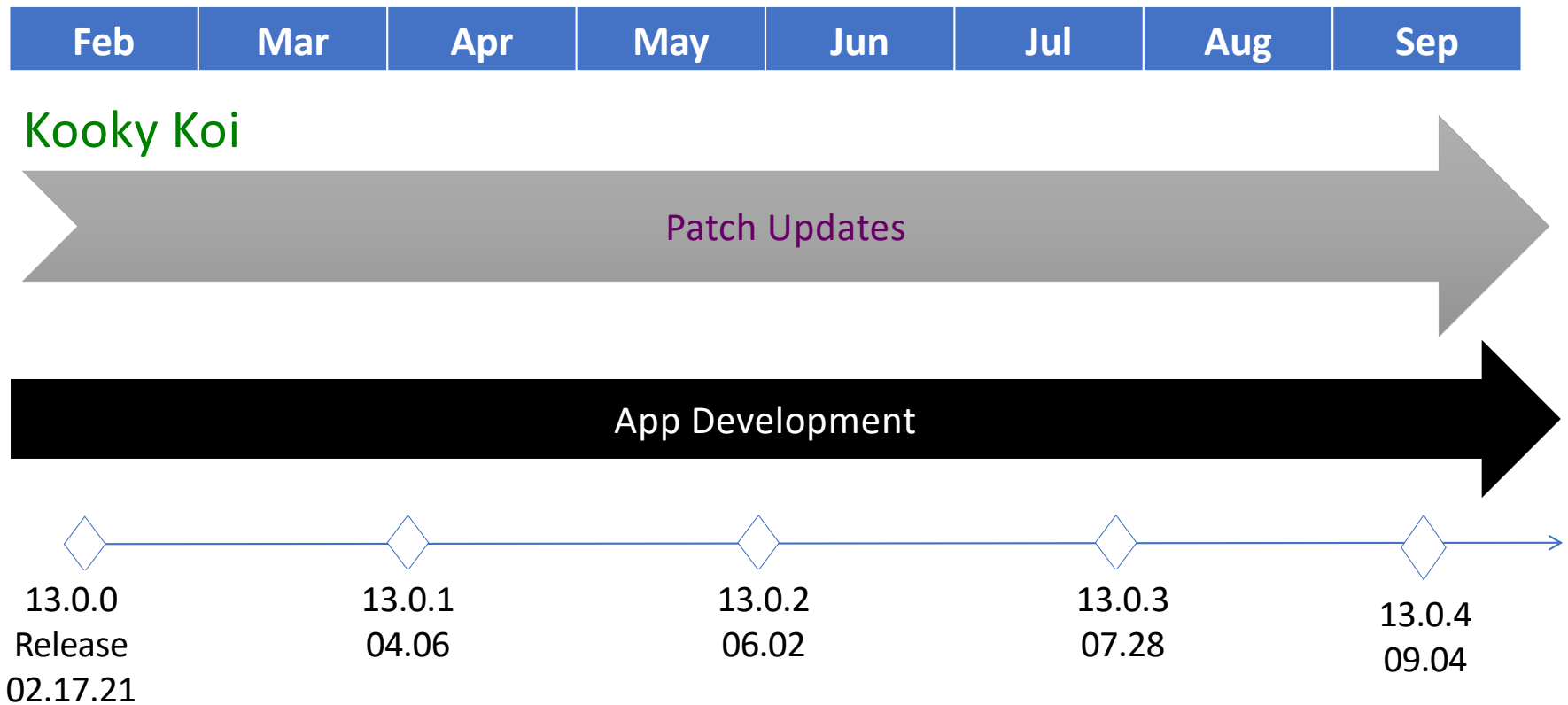


# Magic Marlin



As of 26 August 2021

# Magic Marlin Patch Releases



As of 26 August 2021

# AGL Expert Groups



# AGL Will Evolve To

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- Embrace more of the best of open source
- Take advantage of upstream
- Collaborate with existing communities to extend automotive use cases
  - Yocto and OpenEmbedded
  - Replace App FW with systemd and other mature technologies wherever possible.
  - PipeWire and WirePlumber
  - Weston and Wayland
  - Flutter
  - Flatpak



# Topology

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- SOCs continue to grow ever cheaper and more powerful
- High speed connectivity becomes ubiquitous
- Can re-arrange functionality within the vehicle
- More functionality to the cloud
- Virtualization, Container and Service Mesh, V2C expert groups tackling this!

# Learn More

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- Key Expert Groups in these efforts
  - [Containers and Service Mesh](#)
  - [Virtualization](#)
  - [Instrument Cluster](#)
  - [Vehicle to Cloud](#)
  - [Application Framework](#) evolution
  - [CI and testing](#) to pull it all together

# Product Ready IVI EG

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# Product Ready IVI EG

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- EG is being led by Toyota
- Bring more production-ready components into the AGL UCB
- Focus on enabling key features needed by future IVI systems in development today
- Feature gap analysis with current UCB
  - Code re-use from existing production system donated by members
  - [Evolution of AGL App FW](#)



Infotainment

<https://wiki.automotivelinux.org/eg-ic>  
<https://confluence.automotivelinux.org/x/sQDBAQ>

# Product Ready IVI EG

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- Flutter
  - Open Source UI toolkit created by Google, originally for Android
  - Cross-platform development
  - “Beautiful native apps in record time”
- Toyota working to open source their implementation of a Flutter Embedder that works with Wayland
- Igalia running Flutter Apps on the existing AGL UCB using Web App Manager
  - Watch this evolution on [Confluence](#)

# App FW Evolution

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- Replace AGL maintained App FW with systemd components
- IPC via gRPC or similar
- Enhanced developer experience using Flatpak
- Replace SMACK with SELinux with option to have no LSM enabled
- Debut with Magic Marlin release

# AGL Workshop

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- Virtual Workshop to be held Oct 19-20. See the wiki for details.

<https://wiki.automotivelinux.org/agl-distro/oct2021-f2f>

# DEVELOPER RESOURCES

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# AGL Documentation

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- Getting Started

<https://wiki.automotivelinux.org/start/getting-started>

- AGL documentation site

<http://docs.automotivelinux.org/>

- AGL Wiki

<https://wiki.automotivelinux.org/>

- AGL Jira

<https://jira.automotivelinux.org/>

# Get The Code

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- Pre-built binaries and source tar balls available
  - <https://www.automotivelinux.org/software/download>
- Latest Source Code and Build Instructions
  - <https://wiki.automotivelinux.org/agl-distro/source-code>
- Release Notes
  - <https://wiki.automotivelinux.org/agl-distro/release-notes>

# AGL Code

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- AGL gerrit

<http://gerrit.automotivelinux.org/>

- AGL git

<https://git.automotivelinux.org/>

# Ask Questions

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- Weekly Developer Call on Tuesdays

<https://wiki.automotivelinux.org/dev-call-info>

- IRC channel #automotive on libera.chat

Discussion about open source software for vehicles. No help for mechanical issues should be accepted from anyone on this channel.

- Dev Community Mail List

<https://lists.automotivelinux.org/g/agl-dev-community>



## Q & A / Discussion



THANK YOU