

HTML5 apps on AGL platform, status update

Berlin F2F – September 2019

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Recap of 2019 goals

Goals for 2019

- Identified several aspects that required more work:
 - Continuous stabilization and maturity. Needed to maintain integration into Guppy/Halibut/Icefish, and fix and improve several components.
 - Finalize the replacement of pending Qt basic data structures.
 - Keep updating Chromium/WAM with any updates from WebOS, and reduce the delta with upstream.
 - Review memory management and integration of app lifecycle.
 - Targeting to full HTML5 demo.



Goals for 2019

- **Chromium:**

- Rebase latest submissions from WebOS Chromium WebView.
- Upstream the AGL changes into LG repositories.
- Update to more recent Chromium version expecting some 7x codebase upgrade.
- Additional bugfixing and performance improvements.
- Better IPC for communication between WAM launcher and browser process.

Goals for 2019

- **Web Application Manager:**

- Rebase latest commits available at upstream WAM.
- Remove pending Qt dependencies.
- Adaptation of WAM into new HMI architecture.
- Launcher process permission control (SMACK permissions holder):
 - Protocol communication between launcher, browser and proxy.
 - Review token logic for HTML5 apps and remote clients/apps.
- Integration with the new Pipewire audio framework.
- Application life cycle on WAM with the AGL life cycle and memory management.

Milestones - M1

Work done for M1 – Automotive Linux Summit – July 17, 2019

- a) Guppy integration stabilized for 7.0.3 release
- b) Uprev of WAM to Yocto 2.6 (thud branch) released on Happy Halibut using Chromium 68 as the baseline
- c) AGL guppy branch fixes upstreamed to LG WebOS OSE repository
- d) Removal of all Qt dependencies for WAM
- e) Initial integration with audio framework depending on the timing of PipeWire availability
- f) Initial set of demo Web Apps released



Milestones - M2

Work done for M2 – Fall F2F meeting – September 21, 2019

- a) Bugfixing and stabilization issues on Happy Halibut
- b) Improvements on performance and webapps life cycle
- c) Integration of HTML5 demo infrastructure
- d) Second release of Qt webapps migration

Milestones - M2

Stabilization on Happy Halibut:

- Fixed several identified problems:
 - [SPEC-2657] Browser doesn't receive keyboard focus
 - [SPEC-2699] WAM crashes when trying to play a video in the Youtube webapp
 - [SPEC-2746] Dead keys not working in browser
 - [SPEC-2782] Auto-enable WAM remote debug when agl-devel is set

Milestones - M2

Stabilization on Happy Halibut:

- Changes on the sockets management after the new user model:
 - [SPEC-2684] WAM creates socket in /tmp
 - [SPEC-2685] Error creating lock file
 - [SPEC-2755] WAM lock file not deleted when service stopped
- Also looking into other issues as:
 - [SPEC-2586] Redundant systemd instance makes WAM and homescreen crash

Milestones - M2

Improvements on performance and webapps lifecycle

- Continued the work on backporting upstream fixes and performance improvements
 - [SPEC-2266] Backport Chromium-Wayland upstream patches
- Fixing activity of invisible webapps
 - [SPEC-1948] web apps should suspend and resume depending on visibility

Milestones - M2

Integration of HTML5 demo apps infrastructure

- Moving forward the generation of webapps and infrastructure:
 - Defining [SPEC-2773] Integration of web application workflow in the SDK
- Integration of recipes html5-launcher and html5-hvac into AGL repositories
 - [SPEC-2401] Create HTML5 homescreen and launcher
 - [SPEC-2645] Create HTML5 demos: HVAC

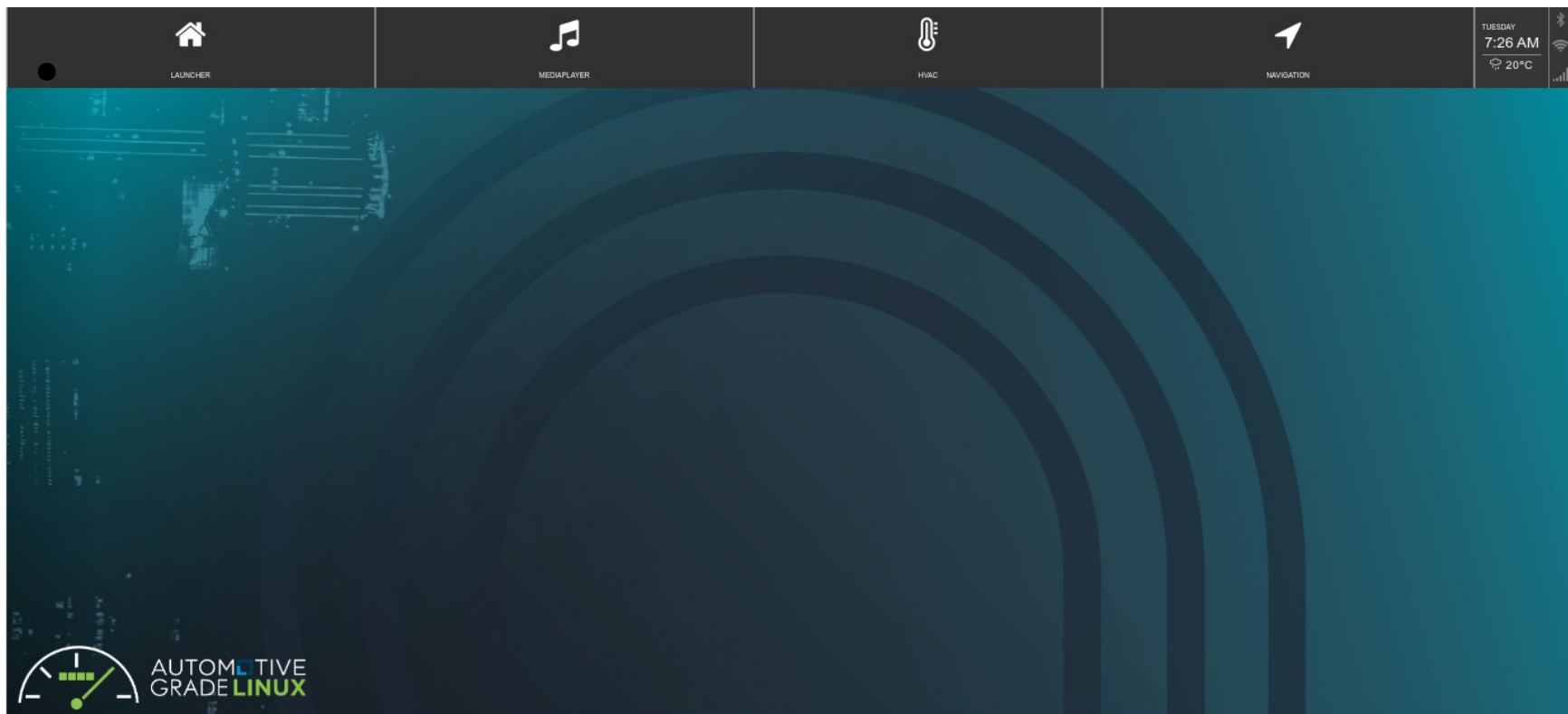
Milestones - M2

Integration of HTML5 demo apps infrastructure

- Working on some problems identified during the replacement of the html5-homescreen:
 - [SPEC-2793] Potential deadlock when autostarting webapps
 - [SPEC-2812] Address competition between native and html apps
- Fixed some issues on the HTML version of the launcher
 - [SPEC-2647] homescreen showWindow event not reaching listeners

Milestones - M2

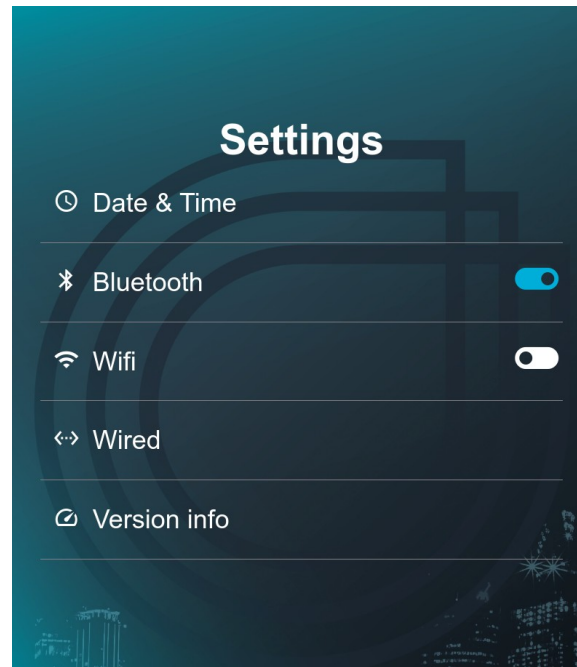
Migration of native apps to HTML5



Milestones - M2

Migration of native apps to HTML5

- WIP for other apps (settings, mixer, mediaplayer)



Milestones - M2

Visibilization on webapp support on AGL

- Blogged about the work done and WAM status
 - <https://blogs.igalia.com/jaragunde/2019/06/26/introducing-the-chromium-based-web-runtime-for-the-agl-platform/>
 - <https://blogs.igalia.com/jkim/2019/08/01/giving-a-talk-at-automotive-linux-summit-2019/>
- I will be delivering a talk on the Montecarlo AMM on “Development and integration of webapps into AGL platform”

Milestones - M2

Follow-ups for the next milestone:

- Integration with new Window Manager and Compositor (commented on the morning session)
- Continue the work on stabilization and app migration for the HTML5-only version of the demo platform.
- Needed updates on the WAM side for the changes on the security model.
 - [SPEC-2226] Use Token-based logic for HTML5 apps

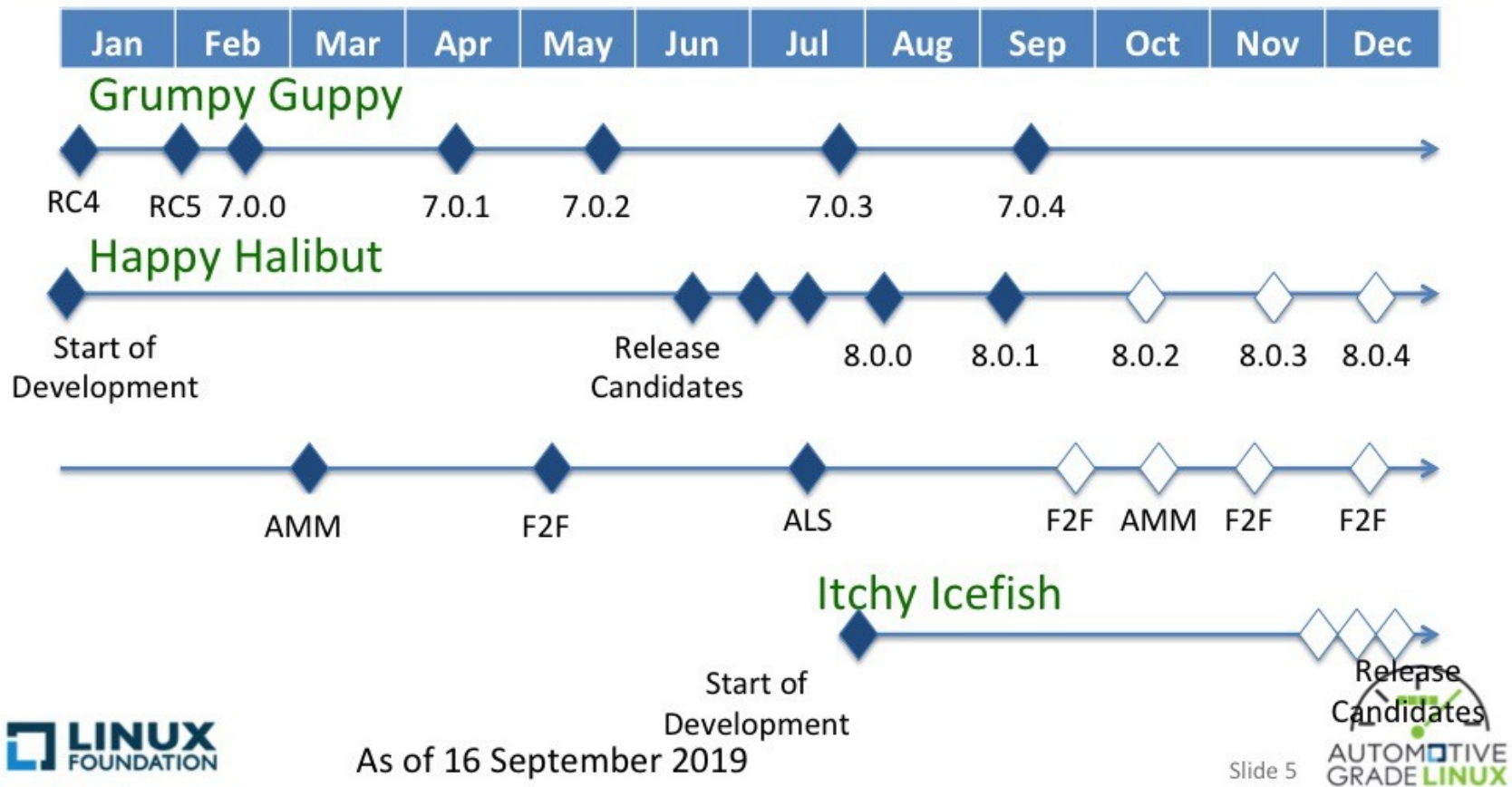


Milestones - M2

Follow-ups for the next milestone:

- Integration of the WebOSE update to Chromium 72 into AGL
 - <https://github.com/webosose/chromium72>
- Looking into some identified issues happening on 8.0.1
- Reduced for now the priority of the work to support running WAM on the desktop for developers, to focus on other improvements for the demos instead.

2019 AGL Schedule



Milestones - M3

M3 – Itchy Icefish RC1 – November 22, 2019

- a) Final Release Candidate of WebOS OSE, Web App Manager, and Chromium available in RC1 and ready for AGL CES demos to be held in January.
- b) Third release of demo Web Apps available.
- c) Revised Roadmap for 2020 development on Web App Manager and Chromium.



Milestones - M4

M4 – Final Release – January 31, 2020

- a) Final Release for Itchy Icefish of Web OSE, Web App Manager, and Chromium.
- b) Complete set of HTML5 demo apps to replace Qt Apps in primary AGL demo for CES 2020.

Doubts and comments