

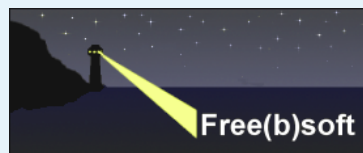
Speech Dispatcher

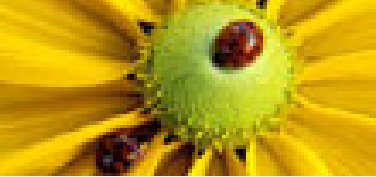
Common interface to speech synthesis

Hynek Hanke

Brailcom o.p.s., the Free-b-Soft project

<http://www.freebsoft.org>



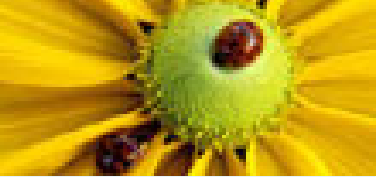


What is Speech Dispatcher?

● What is Speech Dispatcher?

- Speech Synthesis Interface
 - Protocol
- Is KTTSD not enough?
- Architecture
- Possible uses
- Problems in Speech Dispatcher
- Future
- Thank you!

- Assistive technologies need to send output somewhere
- Applications want to speak



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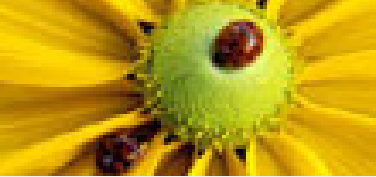
- Problems in Speech

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- Assistive technologies need to send output somewhere
- Applications want to speak
- Various problems:
 - Too much information on the screen
 - Controlling synthesizers too difficult
 - Dependence on particular synthesizers
 - Simultaneous output of two or more applications
 - History of messages?
 - (What about other assistive tools like braille terminals?)

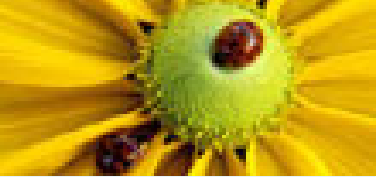


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- **Result: Speech synthesis is rarely used by common applications, the progress in making computers accessible is slow because much effort is wasted on interfacing with various speech synthesizers.**

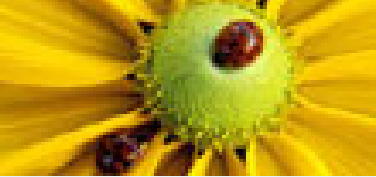


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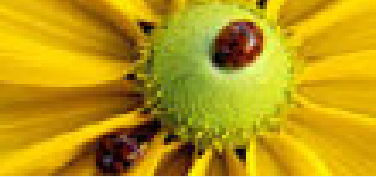
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- Speech Synthesis Interface Protocol (SSIP)



Speech Synthesis Interface Protocol

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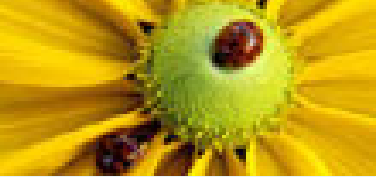
- What a very high level API is to graphical user interfaces, SSIP is to applications that want to use speech synthesis.
- Some features:
 - Priority model
 - Context management (e.g. context pause)
 - SSML support
 - Generic events
 - (Index marking and events notification)
- In a uniform way...
- Speech Dispatcher is one implementation of an SSIP interface.



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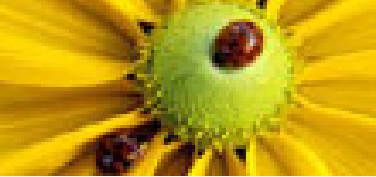
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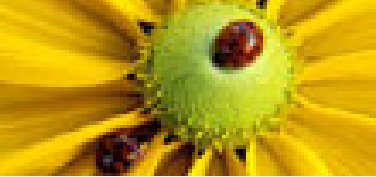
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(Gnome, Emacs, console screen readers...)



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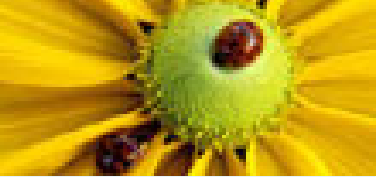
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- X or sound server live outside KDE, TTS servers also should
- KTTSD, Gnome-Speech, Speech Dispatcher – big waste of time while the resources for accessibility developers are so scarce



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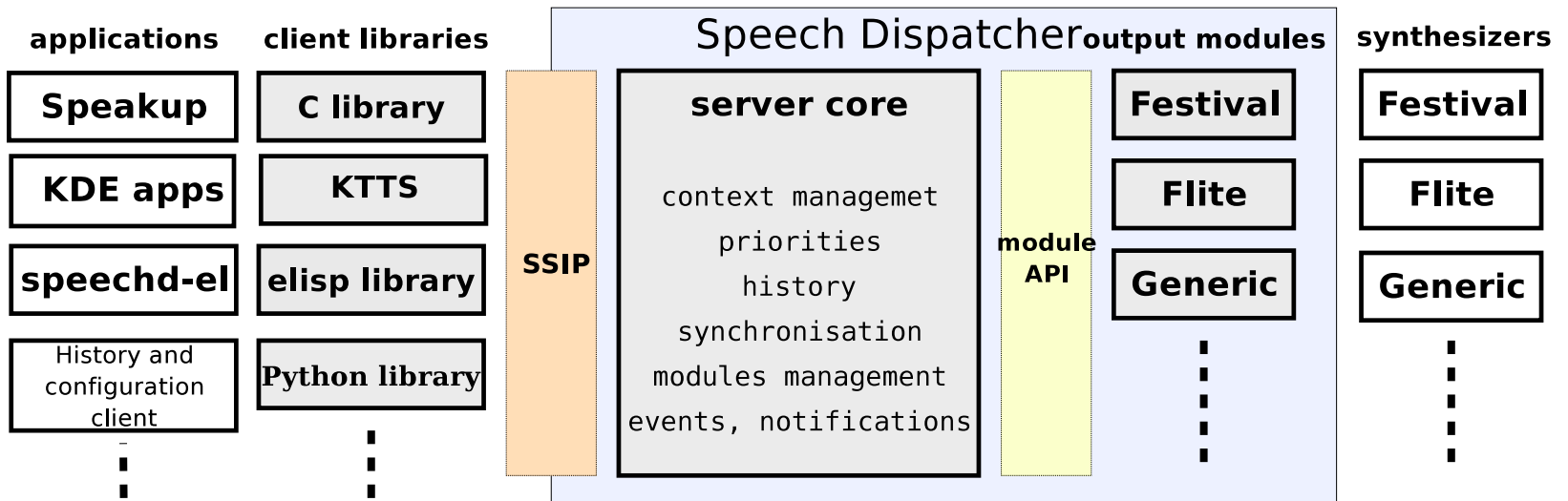
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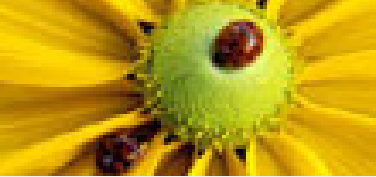
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- X or sound server live outside KDE, TTS servers also should
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- Will it be fast enough?



Architecture

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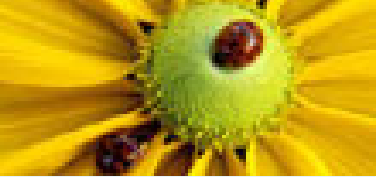




Possible uses

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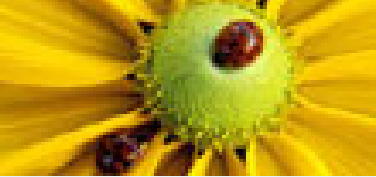
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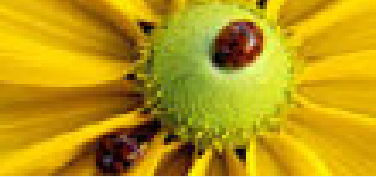
- Is Speech Dispatcher and KTTSD just for the blind?
- Speech synthesis has many uses:
 - accessibility (!)
 - notifications (instant messaging, time, system events)
 - learning apps (typing tutorial, languages etc.)
 - ebook and long text readers
 - games
 - but not telephony servers, TTS-based systems (TTS API)
- KDE application developers will most likely use KTTS API, but they might interface Speech Dispatcher too in SSIP or in one of its APIs (C, Python, Common Lisp, Guile, eLisp)



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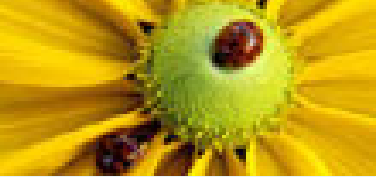
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- How can you help us?



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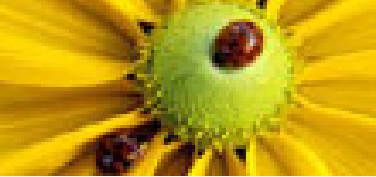
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- How can you help us?
- audio framework (a whole complex problem, related to KDE)
- TTS API (implementation struggle)
- configuration, making it easy to install (big chance in KDE!)
- missing capabilities in TTS and synthesizers



Future

- What is Speech Dispatcher?
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- Speech Dispatcher 0.6: ALSA, index marking and notification
- Integration of Speech Dispatcher and KTTSD
- TTS API specs must be finished and TTS API must be implemented
- Gnome-Speech will either use Speech Dispatcher or the common TTS API
- ...



Thank you!

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- How to contact us?
 - <http://www.freebsoft.org/>
 - users@lists.freebsoft.org