

BTI 7311 Seminar Topics 2021

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January 4, 2021

Sound Garbage Collection for C using Pointer Provenance

- ▶ Garbage collection (GC) is common in many “safe” languages, like Java, Python, C#.
- ▶ What are the problems with GC for C code?
- ▶ How do the authors address the challenge?
- ▶ What are the pros and cons of the solution? Should we use it?

[http://design.cs.iastate.edu/splash20/oopsla20/
oopsla20main-p196-p.pdf](http://design.cs.iastate.edu/splash20/oopsla20/oopsla20main-p196-p.pdf)

Discontinued Privacy: Personal Data Leaks in Apple Bluetooth-Low-Energy Continuity Protocols

- ▶ Explain where Apple Continuity protocol is used.
- ▶ Explain how Apple Continuity protocol works.
- ▶ Explain privacy implications of using proprietary Apple technologies.

[https://petsymposium.org/2020/files/papers/issue1/
popets-2020-0003.pdf](https://petsymposium.org/2020/files/papers/issue1/popets-2020-0003.pdf)

Breaking Secure Pairing of Bluetooth Low Energy Using Downgrade Attacks

- ▶ Explain where BLE is used.
- ▶ Explain secure pairing in BLE.
- ▶ Explain the downgrade attacks.

https:

[//www.usenix.org/system/files/sec20-zhang-yue.pdf](https://www.usenix.org/system/files/sec20-zhang-yue.pdf)

GNU Gettext vs. Fluent

- ▶ GNU Gettext is widely used to translate program user interfaces.
- ▶ Fluent is a new system for internationalization from Mozilla.
- ▶ Explain how the different systems work.
- ▶ Explain advantages and disadvantages of both.

`https://www.gnu.org/s/gettext/`
`https://projectfluent.org/`