



Delphi Summit

June 2024 | Amsterdam

The Best of Delphi Underground

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The *Global* **Delphi** Summit

Organized by





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June 2024 | Amsterdam

About the speaker + TMR

Nice to meet you!

- Carlos Henrique Agnes
 - AKA Tatu
- Embarcadero MVP
- Graduated in Computer Science
- More than 20 years as a Delphi Developer Lover
- Several Official Delphi Certifications
- Speaker at specialized events for more than 15 years
 - Brazil probably has the biggest active Delphi community in the world
- COO at TMR (www.tmrtd.com.br/en)



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Context

The best of Delphi Underground...

- Delphi Underground is an ongoing series of presentations
- The idea: Understanding how Delphi works under the hood, makes us better programmers!
- First Delphi Underground edition was presented by Gustavo Chaurais in 2007
- For this edition, we will have **The Best of Delphi Underground!**



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Disclaimer

- Remember, we came from a different development culture ;)
- We can categorize the items we're going to see in:
 - Just for fun;
 - Less known resources;
 - Under the hood.



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Agenda

Agenda

- Debugging tips
- Exception Chains (Outer + Inner Exceptions)
- Queue is not queuing
- Why TDateTime base (0) = 12/30/1899?
- The dictionary of secrets? Or the secret of a dictionary?





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Debugging tips

Debugging tips

- OutputDebugString (Windows only)
- IsDebuggerPresent (Windows only)
- Data Breakpoint





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Exception Chains

Exceptions Chain

- The class of an exception is so or more important than its message!
 - Sometimes the exception object also holds important information.
- But while handling exceptions...





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Queue not queuing

Queue is not queuing

- Sometimes we need to queue some method executions, but, what if I need to queue something called from the main thread?





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TDateTime and its 12/30/1899 base

TDateTime and its 12/30/1899 base

- Why 12/30/1899, it makes no sense!





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The dictionary secret!

The dictionary secret!

- Ever since we started learning about data structure, we've learned that you either pay to write the data, or you pay to retrieve some specific data... is it true?
- Let's analyze the case of our simple collections.



How does a dictionary work?



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And if I run out of drawers?



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Inside the real dictionary

- We actually have 3 arrays:
 - Key;
 - Value;
 - Hash (this one is used to define the bucket)!
- It uses the power of 2 as base for growing.
 - Starting with 4 drawers, I mean, array positions ;)
- OK, now I know it, big deal!





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Do we have the time
for a bonus track?

Conclusion

- Always try to not accept "that's how it is" for an answer;
 - Read the help;
 - Read the code;
 - Debug the code;
 - Understand the code!
- You will become a better programmer!



Q&A?

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Thank you!