**ICEYE Application diary May 2021**

**Technical task**

**Day -2:**

I just received the task and all I can say is WHAT THE FLAMENCA. The task is crazy difficult and feels waaay out of my league. For a second it is making me doubt my own level of qualification for this job, and making it hard to focus on the database exam I have tonight. Im gonna have to talk to my dad about pre-tasks like these ones in general before my head explodes

**Day -1:**

I spent some time yesterday reading through the datasheet for the component in question for the technical task. Today I spoke with dad and…

First thing I want to do is clearly envision the actual task. Ask myself the questions, what am I actually supposed to do and how.

**The task:**

*Propose an interface for a driver of L9733 integrated circuit, in form of a C header file.*

* *No actual implementation of the driver is needed. Write just the header file. The header should contain function prototypes and whatever other items you consider necessary to interact with the chip.*
* *Write a C language header; assume the compiler can handle C99 standard. Don't use C++.*
* *Assume the driver will be used on 32-bit microcontrollers, in bare-metal and RTOS applications.*
* *Strive for "flight grade" quality of your design and code. Assume it is intended to actually fly on a spacecraft.*
* *If you need it, you can assume there is a spi.hheader available, and it contains a spi\_ttype, which represents the SPI controller of the MCU, and allows you to perform operations on it. If you need any symbol names from spi.h(functions, types, constants) just invent them.*
* *We will not use your code in any actual application. Anything you write will be used solely for the purpose of the recruiting process.*
* *Assume that somebody else will use your header file to write different applications. Add comments to your code to guide the application writer on how to use your data structures and functions. If you have special remarks about the limitations of your interfaces, add them into the comments too.*

*Resources: L9733 datasheet:* [*https://www.st.com/resource/en/datasheet/l9733.pdf*](https://www.st.com/resource/en/datasheet/l9733.pdf)

What the hell…

To make any kind of sense of this I need to start decomposing the task…

**Questions:**

* What is an interface for a IC, in form of a C header file?

An interface says how something should work. Think of it as a contract or a template. It is key to things such as Inversion of Control or Dependency Injection.

* What is the **L9733** IC made for and how does it work?
* How should this be implemented into a C header file?