

COMPUTER SCIENCE TRIPOS Part IA – 2013 – Paper 2

9 Software and Interface Design (AFB)

Imagine you want to design an online file-sharing system that works like Dropbox, but runs from your own house, using a Raspberry Pi with a large USB disk attached. You will use it to share files with your friends. You also hope that in future an open source version might lead to a larger number of servers for load balancing and shared resources.

- (a) Describe in detail (at least 10 steps) a use case scenario where a system operator shares a file with someone who has not used the system before. [5 marks]
- (b) Using an object-oriented language, identify at least four classes that will be involved in implementing this scenario. [2 marks]
- (c) How would you test the performance of the system? [3 marks]
- (d) How would you test the usability of the system? [2 marks]
- (e) How might you identify additional system requirements for new users?
[2 marks]
- (f) Consider how the system can be configured and modified. Identify three different types of person who might do this, and for each of them, describe how they would learn what to do.
[6 marks]