Advanced Systems Topics

(a) Considerable recent operating system research has focused on extensibility.

(i) What is the motivation for this work? 

(ii) Describe with the aid of examples three different techniques for providing extensibility. In each case comment on the granularity of extensibility provided, and discuss the issues of performance and safety.

(b) Some researchers claim that programming language virtual machines such as the JVM should be extensible.

(i) Why might this be desirable?

(ii) How could this be safely achieved? Comment on how your solution might differ from those used in the case of operating system extensibility.