INFO8240: Systems Design (winter 2016) (Dalibor Dvorski)
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INFO8240 Assignment 1

Issued: January 14

Due: January 28

1. A reoccurring problem in many software projects is the handling of payments.
   e.g. A customer uses the system under discussion to purchase some items and has a preferred method of payment. As software developers, we ask ourselves: How will the different methods of payment be supported in our system and how does this affect our design?

   Research how one would support credit and debit card payments in some arbitrary system under discussion. Propose, using the appropriate design patterns covered in the course so far, a general system design to be used to support payments. Your proposal is to be well-written, reference the aforementioned design patterns, and clearly be supported by a UML class diagram.

2. Refactor one of your previous C# projects using the patterns discussed in lecture. Prior do doing so, check with your instructor if the complexity of your project is reasonable for this particular task.

3. Redesign the airline reservation system from last term using the façade (i.e. opaque façade) design pattern.

4. Under what conditions would a transparent façade be more appropriate to use than an opaque façade for the solution to the previous task?

5. Read Evaluating Software Reuse Alternatives: A Model and Its Application to an Industrial Case Study by Amir Tomer and all. What data would you need to accumulate in order to use the model?