

EECS 486 Object Oriented Software Development

Prototype 1 Implementation Description

Possible Points: 50

Assigned Date: 01OC01

Due Date: 08OC01

The objective of the Prototype 1 Implementation is to allow the students to quickly apply newly learned UML modeling techniques to a project. Students will work in groups of four (randomly chosen by professor) for the Proto-1 documentation and implementation. Page 2 describes the contents of the Proto-1 implementation by describing the point content.

The domain of the first project is a child's toy. Specifically, the groups will decompose and re-engineer various V-Tech Smart Toys. This family of toys typically has two modes: Music and Voice. There are sensors that detect pushed buttons and motion. There are actuators that produce sound and light based upon the state of the sensors. There is often a volume adjustment button.

The objective of the documentation was to diagrammatically describe the toy that the team is implementing. The objective of the Prototype 1 Implementation is to implement the toy as described in the documentation. That is, rather than to hack an implementation into existence, the objective is to comply with the earlier design and determine reasons for non-compliance.

The grade for the Prototype 1 Implementation is divided into three parts: Time Effort for Implementation, Functionality of Implementation, and Presentation of Implementation. Each portion of the grade is further described on the next page.

During the implementation, the groups or individuals should focus on completely implementing a portion of the toy, rather than partially implementing the entire toy. That is, implement depth-first rather than breadth-first whenever and wherever possible. As an example, a group may choose to implement 2-3 complete classes from the class diagram or one complete use case. The choice of which classes or use cases to implement is up to the group, but as mentioned, please approach the implementation depth-first.

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Prototype 1 Grading Template

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Effort 20 points

- Each group is expected to work 12 hours/person/group
- Each group will keep a log of hours expended on the implementation by each group member and include the log when reporting out

Functionality 20 points

- Functionality is evaluated based upon a demo to Dr. Chesney and the GSI during the week of 08-12OC01
- Compliance to Prototype 1 Documentation is worth 10 points
- Actual functionality of the implementation is worth 10 points. That is, does the portion of the toy implemented by the group actually work, and is its function demonstrable?

Presentation 10 points

- Each group will present on either the 15 or 19OC01
- Each group will have 25 minutes to present, including setup and tear-down
- The format of the presentations is as follows:
 - Introduction of Group Members
 - Introduction of Domain (Toy)
 - Discussion of Compliance to Proto 1 Documentation
 - Discussion and/or demonstration of Implemented Functionality
 - Analysis of what would be done different next time (BTW, there will be a next time!)

Bonus Points Possible

- Graphical/Sound Implementation 5 points
 - It is assumed that each implementation will minimally be character-based. If group is able to implement a graphical- or sound-based toy, then an additional 5 points will be awarded
- Best-in-class Incentive 5 points
 - Judged by your peers, the best implementation of each toy will be awarded an additional 5 points