SimSys Educational Game Design: Game Design For All

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Background

**SimSys is a serious educational game generator**

- SimSys covers a wide variety of groups that range from:
  - Elementary Schools
  - Universities
  - Workplace Environments
- The game questions created are based on the various learning standards of the subjects it teaches

Objective

The main goal was to make a game design tool, by importing from a repository containing different knowledge areas and game assets, that allows non-game designers to easily and effectively create a game

- The Wizard Tool has both a lower and upper level
- The upper level focuses on learning components and the lower level focuses on actual game components
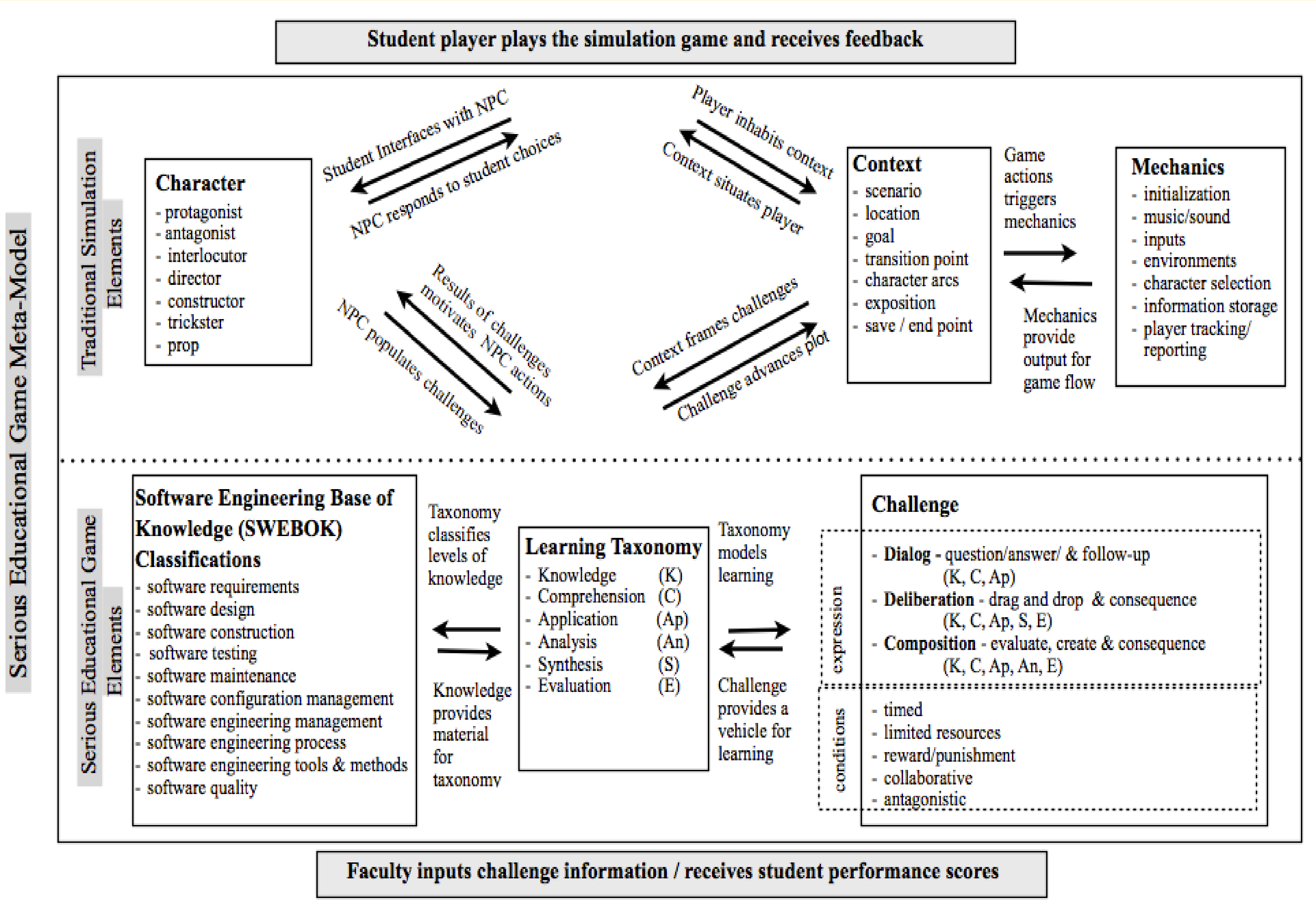

Difficulties

- Creating a tool that is robust and user friendly
- A large repository containing knowledge areas for all subjects will need to be created
- Designing the repository specifications and structure
- Creating a tool that could handle the vast information from the repository and use that information to generate a game
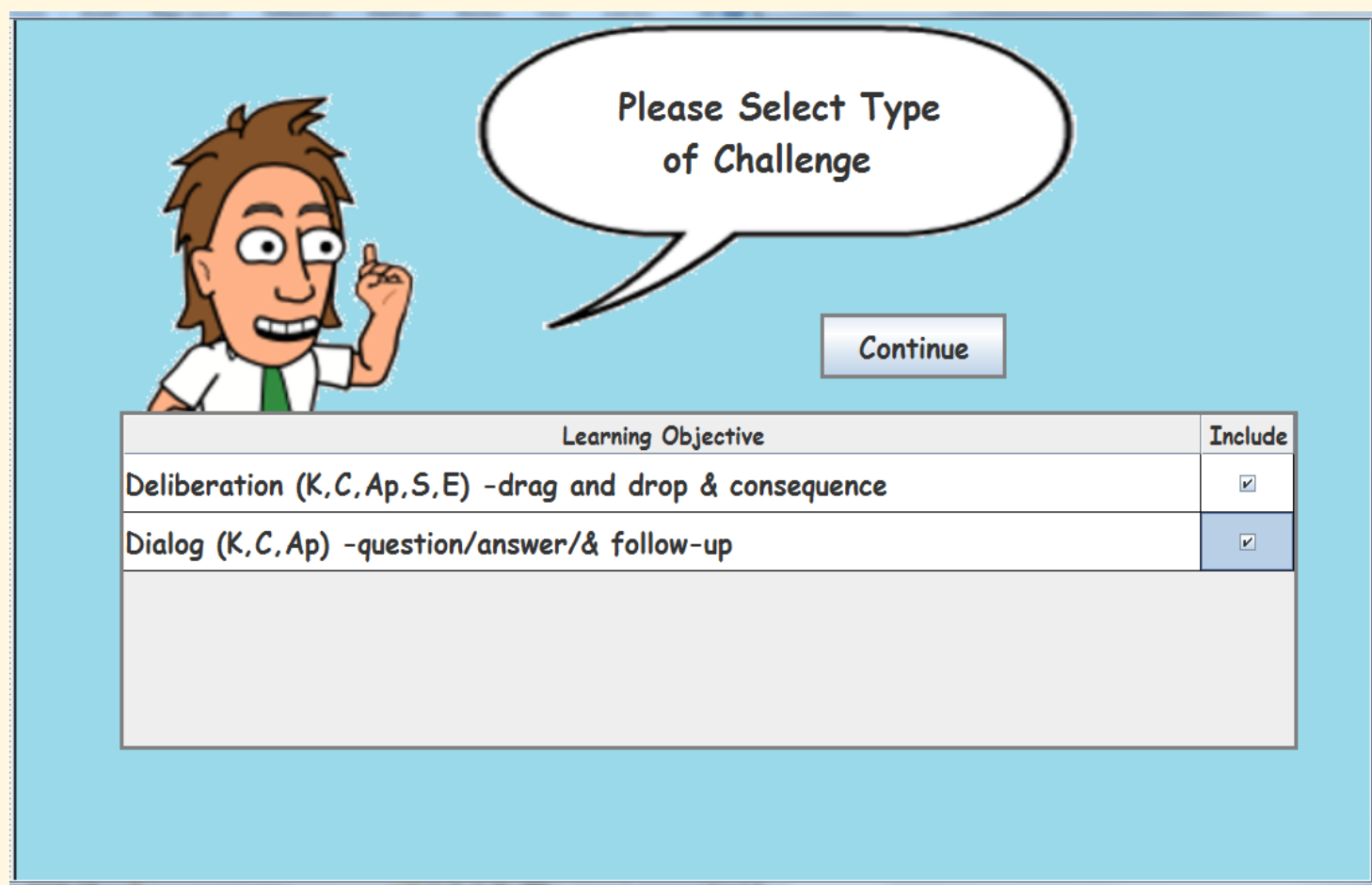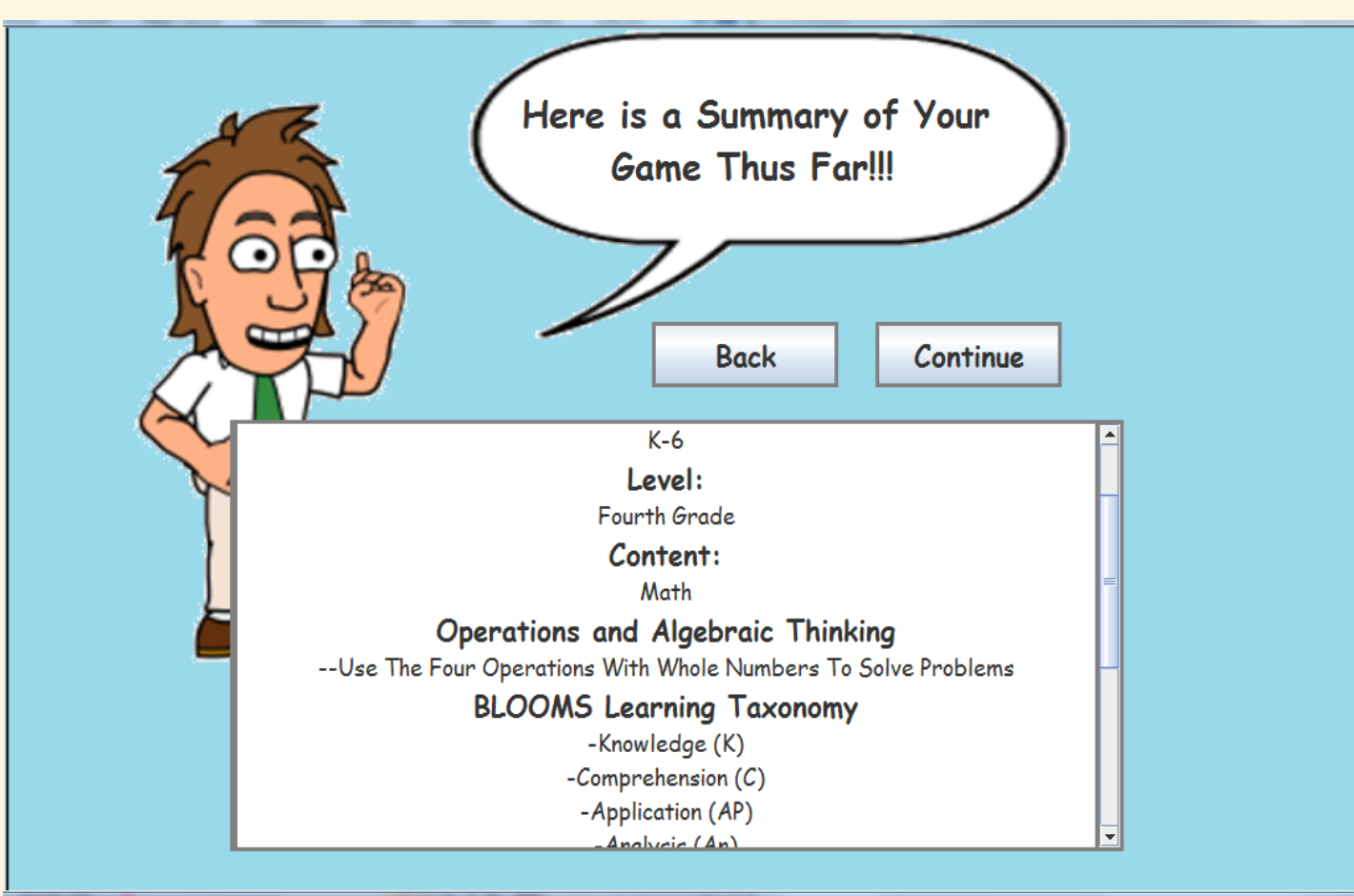
Results
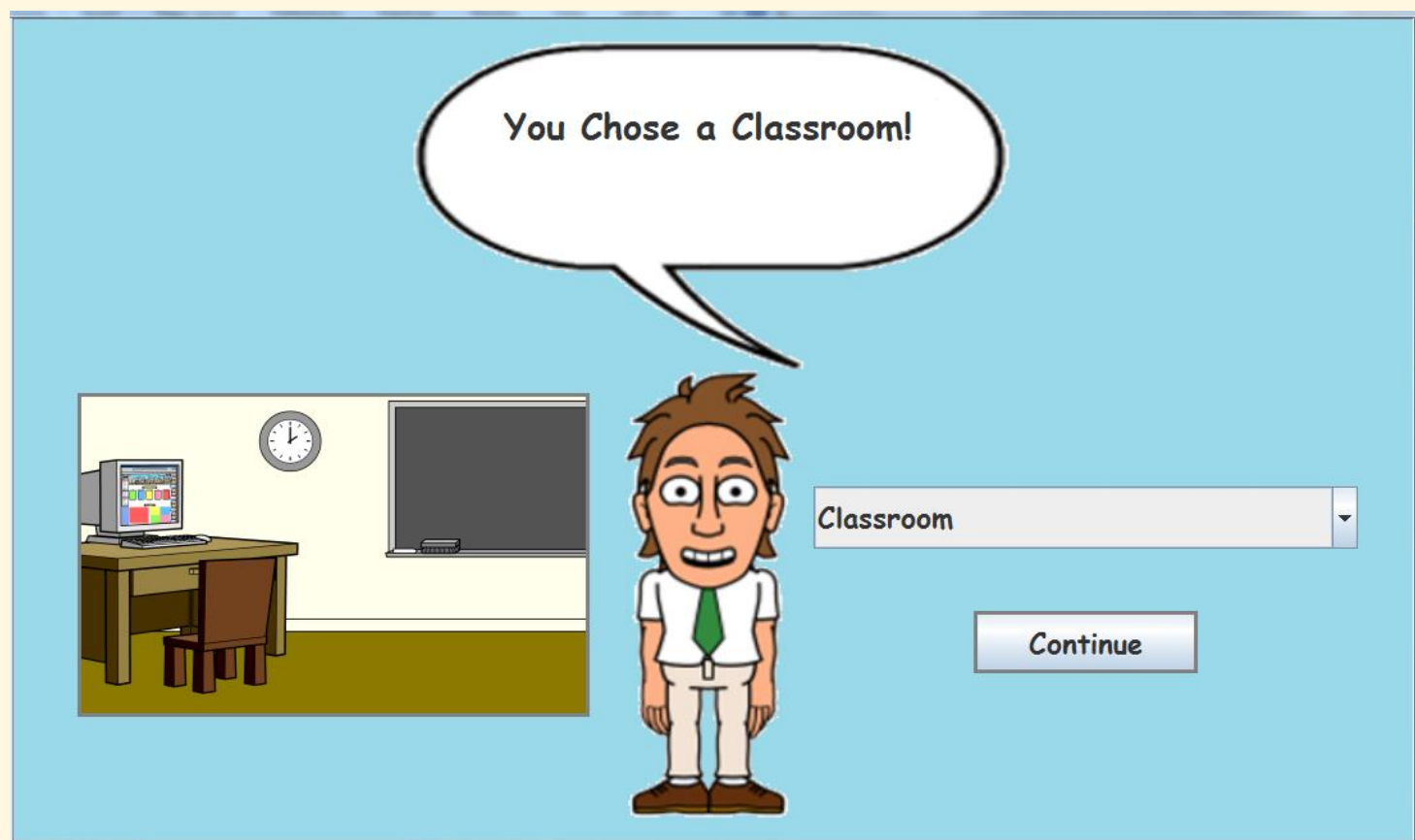
Variety of Groups
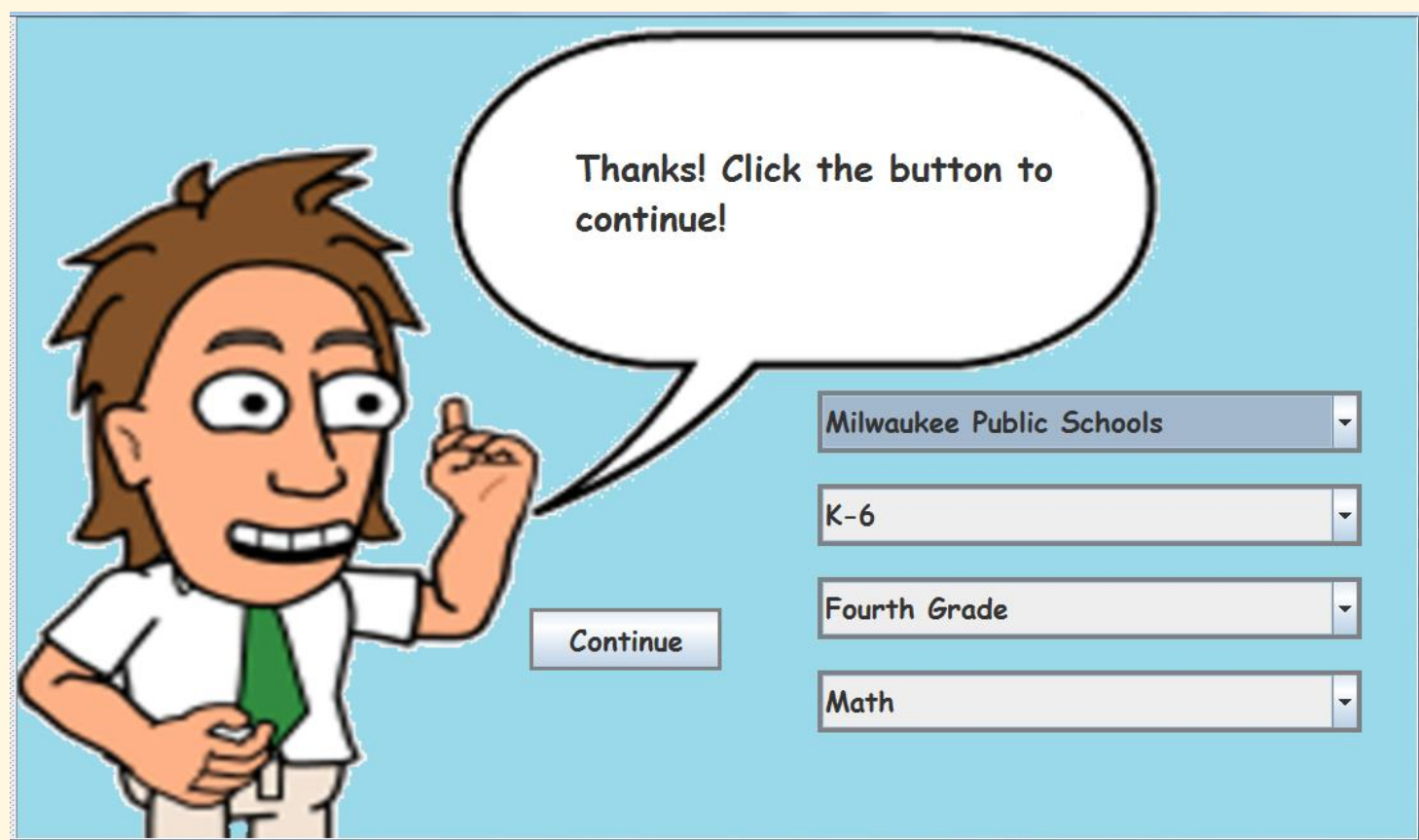
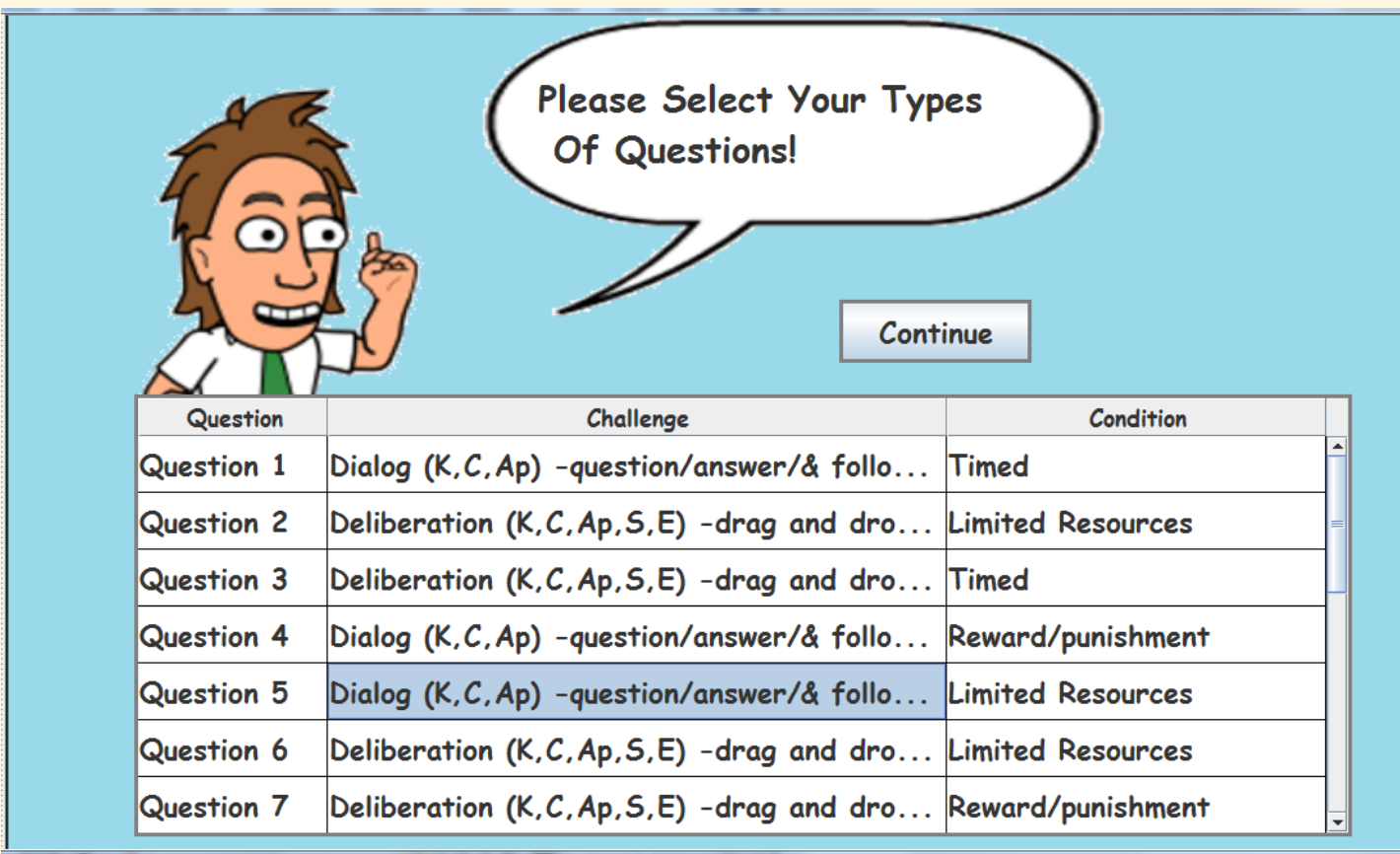### Learning Objectives
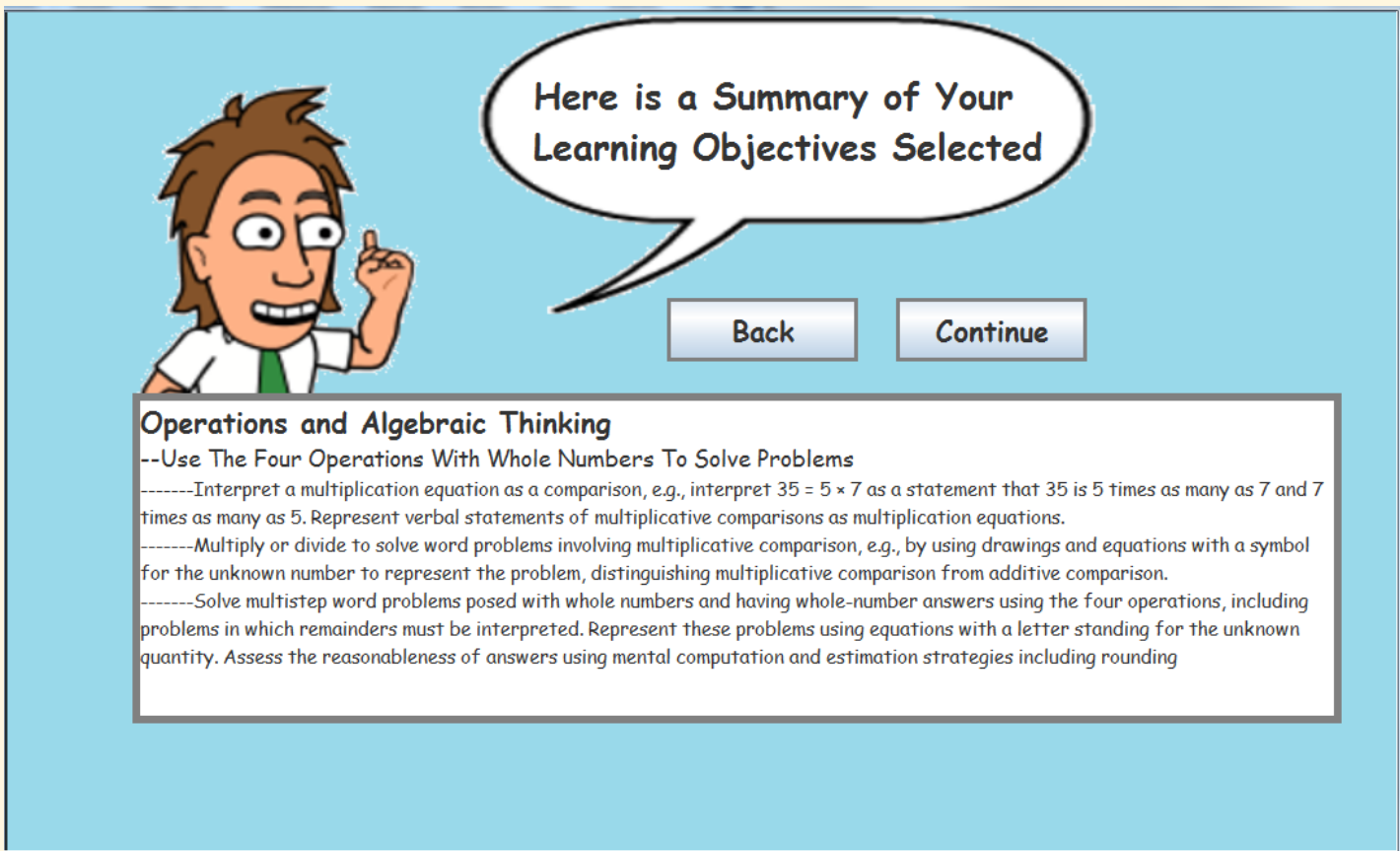
Specific Questions

Summaries

Game Components

Types of Questions

Conclusion & Benefits

- The Wizard Tool helps SimSys achieve the purpose of creating a game that focuses on the educational needs of the user
- The learning objectives are an important part of this tool and questions are generated based on what the user selects
- The user can also control what types of questions the game presents, making this tool extremely useful for educational purposes
- School districts and workplaces can easily see the progress of their students
- In 17 simple screens a user can be guided through the steps to create a wide range of diverse games

Future Work

- A repository needs to be created in order to generate various questions and challenges that fit the numerous learning standards of the subjects
- Eventually the tool will be able to choose from a wide range of questions in order to create a number of different games for the user
- The Wizard Tool we created will also be used to test other tools in the SimSys project

References

- The Objective photo was received from Dr. Cooper and Dr. Longstreet
- Dr. Cooper, Dr. Longstreet, and Dr. Brylow have all been a significant help in creating this design tool
- This work was supported by alumni donations to the Systems Lab at Marquette University's Department of Math, Stats, and Computer Science