CSC 400 : Kleptomania;
Grammar Specification (DRAFT)

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1 Domain, misc. terminals

Room := Green Room | Red Room | Blue Room

Queue := Green Queue | Red Queue | Blue Queue

BadPlace := Jail | Hell

Limbo := Limbo

Location := **Limbo** | **Queue** | **Room** | **BadPlace**

Destination := **Limbo** | **Queue**

Table := Green Resource Table | Green Collection Table | Red Resource Table | Red Collection Table | Blue Resource Table | Blue Collection Table

Student := Anustup | Arrvindh | Ben | Piotr | Mike | Lior | Tanu | Pin | Ding | Wenzhao | Shiva | Matt | Jacob | Ross

CommandID := c**N**

N := [1234567890] | [1234567890]**N**

YesNo := yes | no

Unit := second | turn

2 Queries and Responses

SizeQuery := How many students are in **Location** ?

SizeResponse := **N**

MemberQuery := Who is in **Location** ?

MemberResponse := **Student**+

RoomQuery := What is the treasure count for **Room** ?

TableQuery := What is the treasure count for **Table** ?

ResourceResponse := **N**

PreviouslyCaughtQuery := Was **Student** just caught?

PreviouslyCaughtResponse := **YesNo**

CaughtQuery := How many times has **Student** been caught?

CaughtResponse := **N**

CarryingQuery := Is **Student** carrying a treasure?

CarryingResponse := **YesNo**

LocationQuery := Where is **Student** ?

LocationResponse := **BadPlace** | **Room** | **Limbo** | **Queue**, **N** of **N**

SucceedQuery := Did **CommandID** succeed?

SucceedResponse := **YesNo** | Pending | Don't know

Query := **SizeQuery** | **MemberQuery** | **TableObjectQuery** | **JustCaughtQuery** | **CarryingQuery** | **LocationQuery** | **SucceedQuery**

Response := **SizeResponse** | **MemberResponse** | **ResourceResponse** | **JustCaughtResponse** | **CaughtResponse** | **CarryingResponse** | **LocationResponse** | **SucceedResponse**

3 Commands

GotoCommand := **Student** should go to **Destination** .

PickupCommand := **Student** should take a treasure from **Table** .

PutdownCommand := **Student** should place a treasure on **Table** .

WaitCommand := **Student** should wait for **N** **Unit** .

AbortCommand := **Student** should abort .

Command := ϵ | **GotoCommand** | **PickupCommand** | **PutdownCommand** | **WaitCommand** | **AbortCommand** | **Command Command**

4 Comments

1. While the use of capital and lower case was employed in the writing of this grammar, it was done so with the goal of ease of comprehension. For ease of interaction with the executive control, we assume most would prefer a case insensitive version of what we have detailed. Case plays no disambiguating role in the grammar, and thus can be ignored if a team so desires.

2. As a class we decided that new commands given by the executive will **NOT** include an implicit "Abort Command" as a prefix.