Major Functional Object Groups
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Most of the various objects can be categorized using a small number of functional groups. All of the classes in a particular group share a common set of behavior protocols for accomplishing a particular sort of task. Many objects belong to more than one group because they support more than one set of functions. Not all of the functionality of the complete object set is accounted for by this group structure. There are many one-of-a-kind functions that are not dealt with here. In approximate order of implementation:

Avatar

avatar

The avatar group consists of one class, the avatar class itself. This could be thought of as a sort of one-of-a-kind thing, but it is so important I decided not to.

Inert

bush	sign	streetlamp	tree
window			

The inert group consists of objects which simply sit there and do nothing. They are only there to be seen.

Scenic

bridge	fence	gate	ground
pond	river	roof	sidewalk
sky	street	wall	

The scenic group consists of objects that are used to construct the background. They are mostly just seen, though they can interact with movement. Scenic objects are generally not rendered as cels but are specified directly in terms of other graphics primitives.

Door

door	gate

The door group consists of scenic obstructions which may be opened to allow passage or closed to block it. Like containers, the all have the 'open', 'key' and 'unlocked' properties.

GPT

amulet	answering machine		aquarium
backpack	bag	ball	beeper
book/newspaper	boomerang	bottle	box
club	compass	credit card	crystal ball
die	drugs	escape device	fake gun
flag	flashlight	frisbee	gemstone
grenade	gun	instant object pill	
key	knick knack	knife	magic lamp
magic staff	magic wand	matchbook	microphone
movie camera	paper	pencil	picture
plant	radio	ring	road pizza
rock	rubber ducky	security device	sensor
stereo	tape	teddy bear	ticket
tokens	towel	walkie talkie	windup-doll

GPT stands for Get/Put/Throw. The GPT group contains all objects

which can be picked up and carried. Doing this requires manipulation of the 'container' and 'x' and 'y' position properties of the objects. It also must be possible to show the avatar carrying these objects.

Container

backpack	bag	boat	box
car	chest	countertop	display case
garbage can	jacket	pants	safe
skirt	table	truck	

The container group consists of objects which may contain other objects. All containers may be opened and closed and have a lock that requires a key to open. They thus all have the 'open', 'key' and 'unlocked' properties. For some objects it is inappropriate to open and close, so their 'open' property is permanently TRUE and they don't respond to the open/close container protocol. For some objects it is inappropriate to have locks, so their 'unlocked' property is permanently TRUE and their 'key' property is set to NULL so that they can never be locked. All containers have a 'contents' property which is an array of object pointers that tells what other objects are contained within them. All containers have a capacity which is specified by the 'capacity' class property. The capacity determines how many objects may be placed inside the container before the container is said to be full (it also tells us how large a space to allocate for the 'contents' property in the instance descriptor). Some containers (for example the backpack or the garbage can) are opaque and hide their contents within themselves. Others (for example the display case or the table) are either transparent or display their contents outside themselves. Containers have a boolean 'displayContents' class property that tells the graphics routines whether or not to show what's in the container when rendering the container on the screen.

Pseudo

building	bus	region	water

The pseudo group consists of objects which don't really exist, but are defined anyway for reasons of convenience in system definition.

Weapon

club	grenade	gun	knife
magic staff			

The weapon group consists of all those objects which can be used to inflict mayhem and destruction on other avatars and their property. The host must understand the nature and extent of the damage caused by each.

Port

escape device	teleport booth	avatar

The port group consists of objects which move an avatar from one region to another. Avatars are included in this group because they can move themselves by walking. The region-to-region transition triggers a lot of important activity in the system, in both the host and in the C64.

Magic

amulet	gemstone	knick knack	magic staff
magic wand	ring		

The magic group consists of objects with magical powers. An object's magical power is simply invoked. What happens then depends on what exactly the magical power happends to be. There is a pool of magical functions

available in the host for all magical objects to draw upon. Magical objects have a host property 'magicType' that tells which magical function to call.

Money

atm	coke machine	credit card	fare box
fortune machine	jukebox	parking meter	phone booth
teleport booth	tokens		

The money group includes all objects that participate in the handling of funds. Money is represented in two forms: as tokens, which are objective entities that can be passed from person to person or left in a place, and as bank account credits, which can be transferred from one account to another. The atm object converts between the two forms, while the token object and the credit card object embody the interface to the actual money. All the other objects in this group are "coin operated" devices that require the infusion of funds in order to work. The coin-op objects all support a pay/refund protocol.

Sit

bed	boat	car	chair
couch	hot tub	motorcycle	truck

The sit group consists of objects that may be sat in or laid upon. Some of them can hold multiple avatars. Each sit group object has an 'occupants' property that is an array of object pointers specifying who is sitting in it. Each element in this array corresponds to a particular position. The number of avatars who can sit in an object is given by the 'maxOccupants' class property. The graphics routines must worry about displaying the right people in the right places, and the player interface must worry about what seats are filled and what seat a player is pointing at.

Light

flashlight	floor lamp

The light group consists of objects which affect the illumination level of the region. Turning them on or off increments or decrements (respectively) the light level of the region. When the light level of a region is 0, it is displayed in darkness.

Edit

paper

The edit group consists of objects which have a text property that the player must be able to edit. We pop into a simple editor mode to do this. Currently there is only one class in this group, but that could change.

Clothing

amulet	backpack	hat	jacket
pants	shirt	shoes	skirt

The clothing group consists of objects which may be worn on some part of the body (they are not all clothing items strictly speaking, e.g., the amulet). We thus need to have a protocol for putting things on and taking them off again. Clothing items may be picked up and carried in the hands between being worn and being put down. Clothing group objects carry the 'location' class property which specifies where on the body they are to be worn.

Mail

dropbox	mailbox

The mail group consists of objects which interface with the mail system. There are two functions associated with this system: sending mail and receiving mail.

Phone

answering machine	beeper	phone booth	telephone
walkie talkie			

The phone group consists of objects which make up the telephone system. The answering machine and the beeper have to interact with the phone system, while the rest of the objects in the group do all the work. Each phone object has an internal state machine that drives it. Corresponding to this is a 'phoneState' property that tells whether the phone is ringing, talking, dialing, etc. The full phone protocol is quite large and complex.

Interactive

crystal ball	fountain	magic lamp

The interactive group contains objects that have the potential of putting players into direct dialog with system people. For example, the fountain functions as oracle and can ask and answer questions live from the gods.

Vehicle

boat	car	motorcycle	skateboard
truck			

The vehicle group contains all the vehicles. Vehicles carry avatars and their possessions around under the control of one player (the driver). Vehicle movement is a special case of walking: once a player is in the driver's seat of a vehicle, he moves around exactly as he would if he were walking. The vehicle moves and carries all the other passengers along with it.

Music

jukebox	radio	stereo

The music group consists of objects which can play music. Music is represented as a periodic stream of note strings which are sent from the host. Hopefully, they take a lot less time to transmit than they do to play, so that they don't eat all the communications bandwidth.

Idiosyncratic

aquarium	book/newspaper	boomerang	bottle
building	bus	compass	countertop
crystal ball	die	display case	drugs
escape device	fake gun	fare box	flag
fortune machine	fountain	frisbee	garbage can
hand of god	house cat	instant object pill	
jukebox	magic lamp	matchbook	movie camera
paper	parking meter	region	security device
sensor	tape	teleport booth	wind-up toy

The idiosyncratic group consists of all those objects which possess some behavior that is not accounted for in one of the above groups, i.e., everything else.