

Adding reload into the Python API

- reload is partially implemented and these notes will help you complete it
- the files which need to be modified are split into two groups
 - server side (dhewm3 engine)
 - client side (python)
- server side files: `neo/game/Player.cpp`, `neo/game/Player.h`,
`neo/game/ai/pybot.cpp` `neo/game/ai/pybot.h`
- client side files: `python-bot/botbasic.py`, `python-bot/botcache.py`, `python-bot/botlib.py`, `python-bot/python_doommarine.py`

python-bot/botlib.py

- add this code above the `sync` method
- this code calls upon the `_cache` library to `reload_weapon`

```
#  
# reload_weapon - reload the current weapon  
#                 It returns the amount of ammo left.  
#  
  
def reload_weapon (self):  
    return self._cache.reload_weapon ()
```

python-bot/botcache.py

- add this code above the sync method

- ```

reload_weapon - reload the current weapon
It returns the amount of ammo left.

def reload_weapon (self):
 return self._basic.reload_weapon ()
```

## python-bot/botbasic.py

- rename the method `reloadWeapon` into `reload_weapon` for consistency
- python client side changes are complete
  - with the exception of the test code in `python-bot/python_doommarine.py` which is left as an exercise for the reader

## dhewm3 server side changes for reload\_weapon

neo/game/Player.cpp

```
/*
=====
idPlayer::reload_weapon
=====
*/
int idPlayer::reload_weapon (void) {
 if (gameLocal.isClient) {
 return -1;
 }
 if (spectating || gameLocal.inCinematic || influenceActive) {
 return -1;
 }
 if (weapon.GetEntity() && weapon.GetEntity()->IsLinked()) {
 weapon.GetEntity()->Reload ();
 return inventory.ammo[currentWeapon];
 }
 return -1;
}
```

## dhewm3 server side changes for reload\_weapon

- add the reload\_weapon declaration to the Player class
  - add it under ChangeWeapon

neo/game/Player.h

```
void select (int bitmask);
int ChangeWeapon (int new_weapon);
int reload_weapon (void);
```

## dhewm3 server side changes for reload\_weapon

- the server side has partial support for reload weapon but it is currently broken and we will fix it
- fix the code in `rpcReloadWeapon`

## dhewm3 server side changes for reload\_weapon

neo/game/ai/pybot.cpp

```
/*
 * rpcReloadWeapon - return the amount of ammo available for the current weapon
 * after reloading.
 */
void pyBotClass::rpcReloadWeapon (void)
{
 char buf[1024];
 int ammo;

 if (protocol_debugging)
 gameLocal.Printf ("rpcReloadWeapon call by python\n");
 if (rpcId > 0)
 ammo = dictionary->reload_weapon (rpcId);
 else
 ammo = 0;
 idStr::snPrintf (buf, sizeof (buf), "%d\n", ammo);
 buffer.pyput (buf);
 state = toWrite;
}
```



## Add reload\_weapon to the dict class

- check that the declaration also exists in the dict class
- now add this method above the health method

```
/*
 * reload_weapon - reload the current weapon and return the
 * ammo available for the current weapon.
 */

int dict::reload_weapon (int id)
{
 return entry[id]->reload_weapon ();
}
```

## reload\_weapon in the item class

- change existing declaration to return an `int`. The reload will return the amount of ammo left.
- change the declaration of `reload_weapon` in class `item`

■ `neo/game/ai/pybot.cpp`

```
int health (void);
int angle (void);
int reload_weapon (void);
bool aim (idEntity *enemy);
int turn (int angle, int angle_vel);
idEntity *getIdEntity (void);
```

## reload\_weapon in the item class

neo/game/ai/pybot.cpp

```
/*
 * reload_weapon
 */
int item::reload_weapon (void)
{
 switch (kind)
 {
 case item_monster:
 assert (false);
 return 0; // ignore
 break;
 case item_player:
 return idplayer->reload_weapon ();
 }
 assert (false);
 return 0;
}
```