

2017 08 06

```
typedef
typedef vector<shared_ptr<Card>> CardVector;
typedef CardVector::const_iterator CardConstVectorIt; // const_iterator
typedef vector<shared_ptr<Channel>> ChannelVector;
typedef ChannelVector::iterator ChannelVectIt;
typedef list<shared_ptr<CLink>> LinkList;
typedef LinkList::iterator LinkListIt;
typedef vector<shared_ptr<MyCardInfo>> MyCardVector;
typedef MyCardVector::iterator MyCardVectIt;
typedef vector<SOCKET> SocketVec;
typedef SocketVec::iterator SocketVectIt;
typedef list<shared_ptr<CRoom>> RoomList;
typedef RoomList::iterator RoomListIt;
+ item: attribute
```

```
class CActionNetWork
+ CActionNetWork()
+ int Send(CLLink& clientInfo, CRoomManager& roomManager, CChannelManager& channelManager, int flags = 0)
+ int Recv(const shared_ptr<CLink>& clientInfo, CCommandController& commandController, int flags = 0)
+ int SendMyName(SOCKET& clientSocket, CLLink& clientInfo, int flags = 0)
+ int MultiSend(SocketVec& sockets, const string& MS, int flags = 0)
+ int Send(SOCKET& socket, const string& strMessage, int flags = 0)
+ int Recv(SOCKET& socket, string& strMessage, int flags = 0)
```

```
class CReadHandler
- CReadHandler();
+ static CReadHandler* GetInstance();
+ bool ReadUserCard(CLLink* client, const string& textFileName);
+ bool ReadUserGoods(CLLink* client, const string& textFileName);

Non-Member Static
static CCard* CardStatic;
static CReadHandler* ReadHandlerStatic;
static CWriteHandler* WriteHandlerStatic;
static CErrorHandler* ErrorHandlerStatic;
static bool CalcCipher(const int& number, int& result, const int& resultCipher);
static bool InitToAlphaBet(const int& number, const int& maxCipher, char* chResult);
static const string InitToString(const int& targetInt);
static const bool AddCipher(const int number, int& cipherResult);
static const int RandNumber(int max = 100);
```

```
class CWriteHandler
- CWriteHandler();
+ static CWriteHandler* GetInstance();
```

```
class CReadyNetWork
- SOCKET* mServSock;
+ CReadyNetWork();
+ void Accept(SOCKET& hClientSock);
```

```
class CLobby
- int Login(SOCKET& clientSocket, CActionNetWork& actionNetWork, vector<string>& tempUserInfo);
- int JoinMember(SOCKET& clientSocket, CActionNetWork& actionNetWork, vector<string>& tempUserInfo);
- int ChooseMenu(const char* message, SOCKET& clientSocket, CActionNetWork& actionNetWork);
- int SendMenuInfo(SOCKET& clientSocket, CActionNetWork& actionNetWork);
- int NextUserName;
+ CLobby(int NextUserName);
+ int ActionServiceLobby(SOCKET& clientSocket, CActionNetWork& actionNetWork, vector<string>& tempUserInfo);
```

```
struct Card
const int mCardNum;
char* mName;
const int mProb; // 확률
const int mStat; // 스태트
const int mGiveExp; // 이 카드를 획득하면 받는 경험치
Card(int num, char* cardName, int prob, int stat, int giveExp);
Card(const Card& copy) = delete;
Card& operator=(const Card& copy) = delete;
```

```
class CCard
- CardVector mCards;
- CCard();
+ static CCard* GetInstance();
+ void PushCard(const shared_ptr<Card>& card);
```

```
class CErrorHandler
- CCommandController* mCommandPtr;
- CErrorHandler();
+ static CErrorHandler* GetInstance();
+ void setCommand(CCommandController* command);
+ void GetErrorCode(EnumErrorCode code, vector<string>& errorCodeStringVec);
```

```
class CCommandController
- CCardManager mCardManager;
- CChannelHandler mChannelHandler;
- CRoomHandler mRoomHandler;
- CRoomManager mRoomManager;
- CChannelManager mChannelManager;
- CCommandController();
+ bool CommandHandling(const shared_ptr<CLink>& shared_clientInfo, vector<string>& commandString, string& sendClientMessage, SocketVec& clientSocks);
+ CChannelHandler& GetChannelHandler();
+ CChannelManager& GetChannelManager();
+ CRoomManager& GetRoomManager();
+ bool DeleteClientSocket(CLLink& clientInfo);
```

```
class CCardManager
- CGaChar mGaCharHandler;
+ CCardManager();
+ bool ComposeCard(CLLink& targetClient, int targetCard, int sourceCard);
+ bool GaCharCard(CLLink& targetClient, int& resultCardNum, char* resultCardName);
+ bool EvolutionCard(CLLink& targetClient, int targetCard);
```

```
CGaChar
+ CGaChar();
```

```
class CRoomHandler
+ CRoomHandler();
+ bool ExitRoom(CLLink* clientInfo, CRoomManager* roomManager);
+ bool MakeRoom(const shared_ptr<CLink>& shared_clientInfo, CRoomManager* roomManager, const string& roomName, const int& battingMoney);
+ bool EnterRoom(const shared_ptr<CLink>& shared_clientInfo, CRoomManager* roomManager, int targetRoomNo);
+ bool IsAllReadyGame(CLLink* clientInfo, CRoomManager* roomManager);
+ bool IsAllReadyBatting(CLLink* clientInfo, CRoomManager* roomManager);
```

```
class CChannelHandler
+ CChannelHandler();
+ bool MoveNextChannel(const shared_ptr<CLink>& shared_clientInfo, CChannelManager& channelManager, int targetChannelNo);
+ bool ExitChannel(CLLink& clientInfo, CChannelManager& channelManager);
```

```
class CChannelManager
- ChannelVector mChannels;
- MUTEX mRAIL_ChannelManagerMUTEX;
+ CChannelManager();
+ ChannelVectIt GetChannelBegin();
+ ChannelVectIt GetChannelEnd();
+ CChannel* GetMyChannel(int ChannelNum);
```

```
class CRoomManager
- RoomList mRooms;
- MUTEX mRAIL_RoomManagerMUTEX;
+ CRoomManager();
+ void PushRoom(const shared_ptr<CRoom>& shared_newRoom);
+ RoomListIt EraseRoom(RoomListIt delRoom);
+ RoomListIt GetMyRoomer(int ChannelNum, int roomNum);
+ RoomListIt GetRoomBegin();
+ RoomListIt GetRoomEnd();
```

```
class CChannel
- LinkList mClientInfos;
- MUTEX mRAIL_ChannelMUTEX;
+ CChannel(int channelNum);
+ LinkListIt GetMyInfoBegin();
+ LinkListIt GetMyInfoEnd();
+ bool GetChannelSockets(vector<SOCKET>& channelSockets, bool isMyInclude, const SOCKET* myClientSock);
+ void PushClient(const shared_ptr<CLink>& shared_client);
+ LinkListIt EraseClient(LinkListIt myInfoListIt);
```

```
class CRoom
- LinkList mClientInfos;
- MUTEX mRAIL_RoomMUTEX;
+ CRoom(int roomNum, int channelNum, const string& roomName, const int& battingMoney);
+ void PushClient(const shared_ptr<CLink>& shared_client);
+ LinkListIt EraseClient(LinkListIt myInfoListIt);
+ LinkListIt GetMyInfoBegin();
+ LinkListIt GetMyInfoEnd();
+ bool MergeRoom(CRoom* targetRoom);
+ bool GetRoomSockets(vector<SOCKET>& roomSockets, bool isMyInclude, const SOCKET* myClientSock = nullptr);
```

```
struct MessageStruct
char* message;
size_t sendRecvSize;
MessageStruct();
MessageStruct& operator=(const MessageStruct& copyMS);
MessageStruct(const MessageStruct& copyMS);
```

```
class MyCardInfo
- const int mCardNumber; // 카드번호
- int mAmount; // 이 카드에 대한 보유 갯수
- int mExp; // 이 카드에 대한 경험치
- int mIsEvolution; // 이 카드 진화 가능?
- int mStar; // 몇 별?
+ MyCardInfo(int cardNumber, int amount = 0, int exp = 0, int isEvolution = 0, int star = 0);
```

```
class CLink
- MessageStruct mMS;
- CGoods mMyGoods; 나의 재화
- MyCardVector mMyCards;
+ CLink(SOCKET& clientSocket, const string& strPKNumber, const char* name);
+ MessageStruct& GetMessageStruct();
+ SOCKET& GetClientSocket();
+ MyCardVectorIt GetMyCardBegin();
+ MyCardVectorIt GetMyCardEnd();
```

```
class CGoods
- Goods mGoods;
- MUTEX mRAIL_GoodsMUTEX;
+ CGoods(const int& pkNumber);
+ bool SetZeroMoney(EnumErrorCode& resultCode);
+ bool AddMyMoney(const int& addMoney, EnumErrorCode& resultCode);
+ bool MinusMyMoney(int minusMoney, EnumErrorCode& resultCode);
```

```
struct Goods
int money;
Goods(int _money);
Goods(const Goods& copy) = delete;
Goods& operator=(const Goods& copy) = delete;
```