# Project Emohawk – user documentation

## Table of Contents



## 1 Introduction

This document is a user documentation for project Emohawk. Here we will first present an overview of the scenario. Then we will go through the installation process and explain how the user can interact with characters in our scenario.

Project Emohawk is a scenario featuring a simple story occurring in the 3D virtual environment of the action game Unreal Tournament 2004 (UT04). The story features four characters (Bruno, Anne, Clementine and emohawk polymorph). Bruno is a teenage boy aged 19 going out with Anne and as well with Clementine – girls do not know about each other. Emohawk polymorph is a cute alien creature doing adorable noises. On the Fig. 1 we can see Bruno and Anne interacting with each other.


**Fig. 1. Bruno and Anne interacting with each other.** On the figure we can see two project Emohawk characters interacting in the environment of the game UT04 through text messages. Around their heads we can see the flares used to express an emotion with the highest intensity. Copyright Epic Games 2004-2009.

The scenario takes place in small town UnrealVille. There are several locations in UnrealVille perceived by our characters as certain places (the map is not currently offering everything we needed for our scenario). These places are marked on Fig. 2.


**Fig. 2. UnrealVille birds eye overview.** On the picture we can see UT04 location DM-UnrealVille from birds eye. Numbers are marking locations of places we use in our scenario. 1. location of the cinema as well as Bruno and Anne starting place, 2. emohawk's starting location, 3. Anne's home location, 4. Clementine's home location as well as her starting place, 5. meeting place in front of the cinema, 6. location of the park. Credits for map creation: Gavin "Goslin23" Goslin and “Big Ed”. Copyright Epic Games 2004-2009.

Next chapter will explain how to install and set up the scenario. Then we will describe how to navigate in UT04 environment and how to interact with characters in our scenario.

# 2 The scenario installation and execution

To run the project Emohawk scenario, several steps need to be accomplished:

1. Install project Emohawk UT04 part into UT2004 folder (extracting the installation file found on the project Emohawk DVD).
2. Execute UT04 dedicated server using GBScenario on map DM-UnrealVille. To console type following command:

   ...UT2004\System\UCC server DM-UnrealVille_Scenario?game=GBScenario.PogamutScenario

3. Connect to the server through UT04. Run UT04 by executing UT2004.exe (in ../UT2004/System/ folder). In the menu select Join Game. There click “Favorites” tab, right click anywhere in the Favorites tab and click “Add To Favorites”. There type 127.0.0.1 and

confirm. A server will appear in the Favorites tab. Right click on this server and select “Join As Spectator” to join as an observing “ghost” or select “Join Server” to join as a embodied character. Note: You can switch between character and a “ghost” at any time by pressing ESC and clicking “Join Game” or “Spectate” button.

4. Run the project Emohawk jar file (EmotionalScenario.jar) to start the scenario.

Note that UT04 needs to be installed on the computer in order to be able to watch project Emohawk scenario.

# 3 Interacting with characters

To navigate in UT04 virtual environment use arrow keys to move and mouse to look around. When you are a spectator (observing “ghost”) you can switch between the characters on the server by left clicking. Right clicking in spectator mode switch between free camera and character focused camera modes. Text message can be sent just when the user is in character mode. To send text message press “T” key, type the message and confirm by ENTER. If this would not work, check used keys by pressing ESC, clicking “Settings” and referring to “Controls” tab.

Project Emohawk characters can communicate between each other and with user through actions, proposals (special kinds of actions) and casual conversation. These three types of communications are all handled through text messages. For this purpose we have defined a simple keywords based protocol to parse the messages (case sensitive). Note that target character should see the user and be in communication distance to react to actions and proposal correctly (communication distance is around 3 meters in the scenario).

An example of interaction between characters may look like this:

*Bruno: “To:Anne, making proposal kiss”.*

*Anne: “To:Bruno, proposal kiss accepted”.*

*Bruno: “To:Anne, ACTION KISS”*

First Bruno made a proposal to kiss Anne, Anne accepted the proposal. After that Bruno performed action kiss toward Anne. Note that parsing of the messages is case sensitive.

## *3.1 Keywords*

The “To:” keyword followed by a set of names separated by commas determines the characters this message is for. If the “To:” keyword is missing the message is considered to be for everyone. If there is “To:” and no names are after, the message will not be parsed by anyone. Note that the characters need to see the one who is speaking to them in order to receive the message.

Now to determine if the message is an action, a proposal or simple text message another set of keywords is used. This set includes:

- “proposal” – followed by one of the proposal types. Marks that this message is a proposal of input proposal type. To further determine if the character is responding to some proposal or is making a new proposal, one of following three keywords is added: “making”, “accepted” or “rejected”
- “ACTION” – followed by one of action types. Marks that this message is an action of input action type.

If the message does not include any action or proposal keyword, it is treated as a casual conversation. For casual conversation characters parse a set of smilies to evaluate the conversation emotional value. Following smilies are parsed in the text messages:

- “:-)” and “:-(” – substitutes emotions joy and distress. More positive “:-)” smilies mean the

emotion joy will be generated upon receiving this message. The intensity depends on the number of smilies. The highest joy intensity will occur if the result is that in the message there is five more positive smilies than negative ones.

- ":-*" and ">:@" – substitutes emotions liking and disliking. More positive ":-*" smilies mean the emotion liking will be generated upon receiving this message. The intensity depends on the number of smilies. The highest liking intensity will occur if the result is that in the message there is five more positive smilies than negative ones.
- "#!" and ":-O" – substitutes emotions anger and fear. More "#!" smilies mean the emotion anger will be generated upon receiving this message. The intensity depends on the number of smilies. The highest anger intensity will occur if the result is that in the message there is five more "#!" smilies than ":-O" smilies.

Our characters are generating the smilies in the text messages according the actual emotions joy and distress toward the target character (smilies ":-)" and ":-("), according the actual feeling value (smilies ":-*" and ">:@") and according the emotions anger and fear (smilies "#!" and ":-O").

Now we will present complete action and proposal list that can be used by the user. Note that the proposals should be made just to characters with opposite sex. The correct response of characters with the same sex may not be defined well yet.

## *3.2 Actions.*

Here we will present all the possible actions in the scenario:

- "ACTION COMPLIMENT" – User will compliment target character – positive action with positive emotion outcome.
- "ACTION KISS" – User will kiss the character. Should be used just to characters with opposite sex.
- "ACTION SEX" – User will make love with the character. Should be performed after accepted sex proposal and just at home.
- "ACTION INSULT" – User will say an insult to character – negative action with negative emotion outcome.
- "ACTION SLAP" – User will slap target character – negative action with negative emotion outcome.
- "ACTION BYE" – User will end interaction with target character – character will usually walk away.
- "ACTION LEAVE" – User will end the interaction with target character in a negative way.
- "ACTION CUDDLE" – User will cuddle target animal. This action can be performed only to animals – emohawks.
- "ACTION KICK" – User will kick target animal. This action can be performed only to animals – emohawks.

Example of text message containing action compliment toward Anne would be: "To: Anne ACTION COMPLIMENT".

## *3.3 Proposals*

Here we will present complete list of proposals in the scenario as well as the behavior they trigger when they are accepted. Proposals are a special type of actions. They allow the characters to negotiate certain things between them. First character (or user) makes certain proposal to second

character, who may react to this either by accepting, rejecting or even ignoring the proposal (by not responding to this proposal at all). Each accepted proposal triggers certain behavior of the character. Below we will outline all the proposals in the scenario as well as their triggered behavior:

- "making proposal cinema" – user will propose to target character to go to the cinema with him. If this proposal is accepted, the user should lead the way to cinema followed by target character. Reaching the cinema location, the target character will start to watch the film – this lasts for 15 seconds, where the character will not speak or interact with anyone. After this the character resumes the interaction.
- "making proposal park" – user will propose to target character to go to the park with him. If this proposal is accepted, the user should lead the way to park followed by target character. Nothing special happens when they reach the park place.
- "making proposal home" – user will propose to target character to go to home of target character. If this proposal is accepted, the user should lead the way to target character home followed by target character. Nothing special happens when they reach the home place. However the home place allows for extended set of proposals to be selected and accepted.
- "making proposal kiss" – user asks target character if he/she wants to kiss him/her. When accepted user can perform action kiss with an positive outcome.
- "making proposal sex" – user asks target character if he/she wants to make love with user (possible just between opposite gender). When accepted user should select action sex as next. Target character sex action is visualized by text messages in the environment.
- "making proposal leave" – User asks target character to leave all the other characters he/she may be interacting with right now. Accepting this proposal, target character will perform action bye to all the characters he/she is interacting with exception of the user.

Example of text message containing proposal cinema to Anne would be: "To:Anne making proposal cinema". Example of text message that would accept proposal to kiss by Anne would be: "To:Anne proposal kiss accepted".

### *3.4 Note*

We would like to note that the focus on project Emohawk was not user – character interaction at this time. Hence user may achieve a number of unnatural situations for example by making a proposal to go to park and lead the character somewhere else or making action sex toward same gender character without making proposal first etc. Characters are currently unable to deal with all of these situations, although it is one of our goals for future work.

## 4 Characters affect expressions

Expressing the affect meaningfully is one of the problems the affective IVA development brings. In project Emohawk we used three ways of affect expression. Firstly, the affects values are effectively affecting character decision making in the means of which action or proposal will the character choose when interacting with other character. Secondly, the affects shape the casual conversation between characters (kinds of smilies are generated according the current characters affects). Moreover, thirdly around each character head there is a set of flares floating around (seen on Fig. 1). These flares can change color, size, speed and a direction of movement. These flares are used to express character current strongest emotions. To express emotion intensity we use the size (the higher intensity – the bigger flare). To express emotion type we use the color. We have mapped some of character's emotions to colors according to table 1.

| Emotion | Color |
|---|---|
| anger | bright red |
| fear | dark green |
| joy | yellow |
| distress | blue |
| love | pink |
| hate | black |
| liking | violet |
| disliking | brown |
| unspecified | white |

**Table 1. Mapping of emotions to colors.** The emotions not found in this table will be visualized by white color.