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ONLINE VIRTUAL TEAM COLLABORATION PLATFORM
WITH 3D GRAPHICS

CENG 492
SpadeShip User Guide

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1. INTRODUCTION

1.1 SpadeShip Project
SpadeShip is an educative simulation platform with 3D Graphics. The simulation mainly aims to educate users on collaboration and team work while improving their abilities on emergency management.

1.2 Scenario
The simulation environment is a passenger ship. During the simulation users can move in the cabins and the corridors of this ship. The emergency is the fire on the ship.

All different character types have different responsibilities to manage the situation. Firemen try to extinguish the fire. Medical team treats the injured passengers. Captain directs the treated passengers to a safe place on the ship. Finally, the facilitator has the control over the whole process. He sends extra equipment to the users. He can also create fires on random positions on the ship and add injured passengers. In addition, he ends the simulation.

1.3 System Requirements
System requirements can be listed as:

- P4 2.0 GHz processor or equivalent
- 3D Graphics card with 128 MB memory
- 512 MB RAM
- 400 MB free disc space
- Windows operating system
2. SIMULATION MENUS

2.1 Character Selection Menu

User should select the character and enter the IP in this menu, then wait for the other users to connect.

The facilitator should connect before all other users since it has server role in the simulation.

2.2 Connection Menu

It is possible to understand which users are already connected in this menu.
When nobody is connected:

When the captain is connected:
When the medical chief is connected:

![Image of a computer interface with a medical chief icon connected.]

When fireman connected:

![Image of a computer interface with a fireman icon connected.]

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2.3 Facilitator Menus

2.3.1 Facilitator View Menu
The facilitator can change between different camera alternatives using the Facilitator View Menu.

2.3.2 Facilitator Create Menu
Facilitator can add passengers or fires during the simulation using this menu.

2.3.3 Facilitator Send Resource Menu
When the user asks for resource from the facilitator, he sends resource using this menu.

2.4 Captain Menu
For “Direct Passenger” option, user should first middle-click a point on the floor, then right-click a passenger, then click “Direct Passenger” in the menu. So the passenger goes to that point.
For “Lead Passenger” option, user should first right-click on a passenger, then click “Lead Passenger” in the menu. So the passenger can follow the captain.

For “Leave Passenger” option, user should first right-click on a passenger, then click “Leave Passenger” in the menu. So the passenger stops following the captain.

2.5 Medic Menu
The medic should right-click on a passenger and click “Recover Passenger” in the menu to treat an injured passenger. He can also see the remaining resource amount in this menu.
2.6 Fireman Menu
The fireman should right-click on a fire and click “Extinguish Fire” in the menu to extinguish a fire. He can also see the remaining resource amount in this menu.

2.7 Evaluation Menus

2.7.1 Evaluate Others Menu
When the simulation ends, the user is expected to give scores to each user separately.
2.7.2 Waiting for Scores Menu
Until all the users give the scores, this menu is seen on the screen.

2.7.3 Simulation Scores Menu
After all the users give scores, the result is seen on the screen.
3. CONTROLS

3.1 Mouse Controls
Right button: It is used as the select button (Passenger and fire selection)

Middle button: Flag point (used when selecting a point to direct passengers)

Mouse movements: turning direction

3.2 Keyboard Controls
W: Forward
A: Left
S: Backward
D: Right
Esc: Quit the simulation

4. USING THE SIMULATION

4.1 General
When user selects a character type, he can control the character using the simulation controls. He can walk around and take the necessary actions using simulation menus. He should work in coordination with other users for a successful result.

4.2 Resources
The resources will be consumed during the simulation. When the resource drops under a critical limit, the user should ask for resource support from the facilitator urgently. He can continue his job after taking the sent resource.
4.3 Camera
The facilitator has both first person and third person views. He can see from the perspectives of other characters whenever he wants using Facilitator View Menu. Other characters have first person views.

4.4 Evaluation
Evaluation is based on the scorings of other users and the success in the simulation. Criterion for success evaluation is dependent on the character type. It is the ratio of extinguished fires to all fires for the fireman, the ratio of treated passengers to injured passengers for medic and the number of evacuated passengers to treated passengers for captain.

In this way, the dependency between performances of different characters is minimized in evaluation step.

5. SIMULATION CONTENT

5.1 User Characters
Captain: Captain is capable of moving in all directions and leading the passengers to move to a safe place. The screenshot of the captain is below:
Medic: Medic is a character capable of moving in all directions and directing his team to treat passengers. The screenshot of the medic is below:

![Medic Screenshot](image)

Fireman: It is a character capable of moving in all directions and using his team to extinguish the fires. The screenshot of the fireman is given below:

![Fireman Screenshot](image)

5.2 NPC Characters
The passengers are the non-player characters in SpadeShip. They have AI property. They are able to follow the captain or follow the route given by the captain.

5.3 Map
The map used in the simulation represents the indoor environment of the ship. There are several rooms and a corridor in the map. All of the rooms are connected to the corridor with a door. Character can move in all these pathways.