AC-130 Gunship:
Game Design

Introduction

AC-130 Gunship (working title), is a semi-realistic, close air support, military shooter based on the United States Air Force's AC-130 range of fixed-wing ground-attack aircraft. The aircraft is based on the Lockheed C-130 Hercules transport plane, which is then modified and armed by Boeing. Whilst the game does contain some arcade and fictional gameplay elements, it strives to emulate the real world conditions in which the plane is designed for. The game also accurately mimics the speed, mission altitude, weapon loadout packages, environments and mission roles of the real world equivalent.

Design

The game will consist of four main distinct components:

1. Main Menu. From this screen the player can advance to the next screen, access graphics and audio options, read the instructions, or exit the game.
2. Mission Briefing. The player can select a mission and view the mission description and mission requirements for success.
3. Mission Play. This is the main game screen where the game will be played.
4. Mission Debriefing. This screen summarises the players mission effectiveness, providing statistics and evaluation.
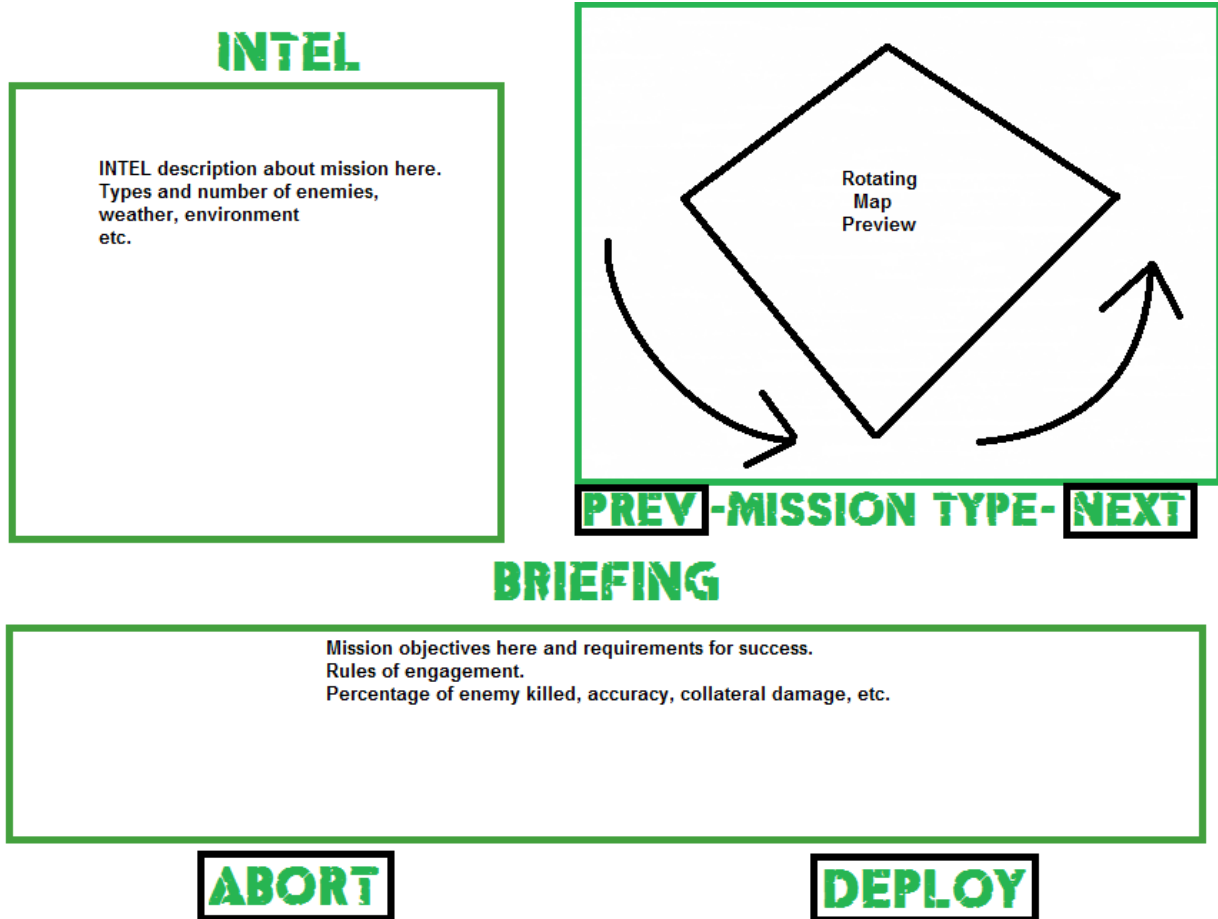
Main Menu

The main menu will be a level consisting of a simulated AC-130 orbiting around the camera in the background against a night time skybox. The aircraft will automatically fire its main weapon down on imaginary ground targets. Three floating menu elements will form a triangle around the camera; the main menu, options menu and instructions. The camera will pan to each element when selected.
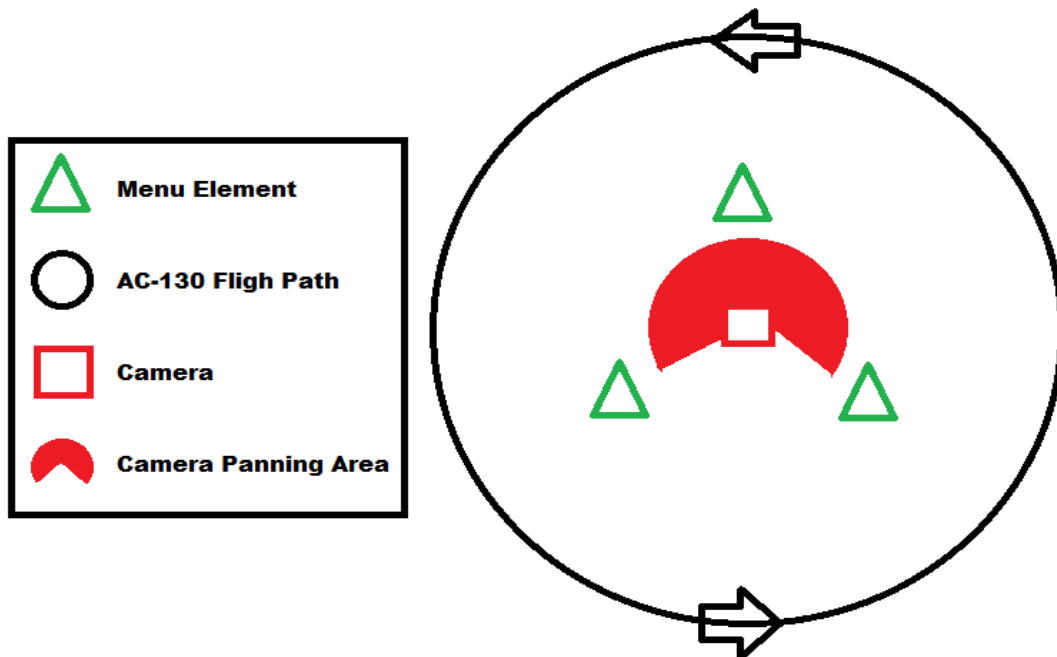
Mission Briefing

The Mission Briefing screen's aesthetics will mimic a computerised top secret intelligence dossier. The player can then select which mission to play. A preview of the mission environment can be seen rotating in the top right hand corner of the screen. All other details of the mission are displayed in the mission brief and intel sections. *Words surrounded by a black box are buttons.*

INTEL

INTEL description about mission here.
Types and number of enemies,
weather, environment
etc.

Rotating
Map
Preview

PREV -MISSION TYPE- NEXT

BRIEFING

Mission objectives here and requirements for success.
Rules of engagement.
Percentage of enemy killed, accuracy, collateral damage, etc.

ABORT   DEPLOY

Mission Play

This component is the main game. The player will occupy the gunners seat in the aircraft looking at the environment below through the electronic gun targeting systems. The player can also modify the altitude, speed, orbiting radius, and orbiting target of the aircraft (within the limitations of the real world plane). The player will have access to three different player aimed weapons, one lock on weapon and one defensive weapon:

i. 105mm Howitzer cannon. This is the largest weapon. It fires a High Explosive (HE) round that has a very large kill/damage zone. This weapon has a long reload time but anything caught within its explosion will be destroyed.

ii. 40mm Bofors machine gun. This weapon fires a High Explosive Incendiary/ Armour Piercing (HEIAP) round. It has a much faster fire rate than the Howitzer but a much smaller explosion. Direct impacts can destroy armoured vehicles. This weapon is suitable for destroying clusters of light to medium vehicles.

iii. 20mm Vulcan minigun. Firing a 20mm High Explosive Incendiary (HEI) round combined with its devastatingly high fire rate, this weapon is suitable for fast moving lightly armoured targets and all foot soldiers.

iv. A-10C Warthog airstrike. At any time an enemy combatant has been recognised and

highlighted by the computer, the player can choose to call in an airstrike. An aircraft will then fly in perform a strafing run. This is a highly effective attack and can take out multiple vehicles if they are close together but has very limited runs.

v. Flares. Occasionally the player may encounter enemy MAN-Portable Air Defence Systems (MANPADS) and Surface-to-Air Missile Systems (SAMS). These will fire missiles that lock onto the AC-130's heat signature. The player can deploy decoy flares to counter the missiles. The player has limited flares and the player's best defence is to destroy the MANPADS and SAMS before they become operational.

Each weapon has its own targeting reticle and zoom suited to its impact zones. For example, a weapon with a very large impact zone will have a smaller zoom so the player can view the full target area.

A selection of camera filters are also available for the user to make target acquisition easier and faster. The thermal vision filter scans heat signatures in the environment, displaying hot signatures such as vehicle engines and people as white and cooler signatures such as the ground or trees as black. This is called White Hot (WHOT) thermal vision. An inverse Black Hot (BHOT) thermal filter is also available. A computer constantly analyses the thermal filter and marks enemy combatants on the players HUD when the night vision filter is used. Only the closest enemy combatant to the players targeting reticle is highlighted when the thermal vision filter is used.

The game will include various mission roles such as interdiction, escort and rescue. All missions will require players to minimise collateral damage and abide by the rules of engagement(ROE). Players will also be rewarded for accuracy, speed and for using the minimum amount of force necessary to achieve mission victory. Environments for missions will include forested rural areas and small villages, in deep valleys. All missions are performed at night. Some missions may have Flak cannons. Friendly soldiers are identified by flashing infra-red (IR) beacons.

Interdiction will require the player to circle above the enemy's supply routes and destroy an enemy convoy within a limited time (before air defences can be rallied). Enemies will include transport trucks, fuel trucks, tanks and other military vehicles. Convoys will be defended by hidden SAM sites and MANPADS, the player will need to destroy them before the plane is shot down.

Escort missions involve the player providing close air support to friendly ground troops advancing on enemy positions. The player will need to adjust their aim in order to avoid friendly casualties.

Rescue missions are similar to escort missions. A smaller special ops force of friendly forces will be escorted to an area to rescue a prisoner/hostage. The player will then defend waves of enemies attacking the special ops team until they are able to escape to the extraction zone.

N.B. Only the interdiction mission will be available in the game demo.

<u>Mission Debriefing</u>
This screen will provide a summary of actions performed by the player during the mission. Statistics on accuracy, efficiency, time and objective completion will determine the success or failure status of the mission. The screen will look similar to the mission briefing, however, it only include a single document in the middle of the screen.