

= Flight Unlimited II =

Flight Unlimited II is a 1997 flight simulator video game developed by Looking Glass Studios and published by Eidos Interactive . The player controls one of five planes in the airspace of the San Francisco Bay Area , which is shared with up to 600 artificially intelligent aircraft directed by real @-@ time air traffic control . The game eschews the aerobatics focus of its predecessor , Flight Unlimited , in favor of general civilian aviation . As such , new physics code and an engine were developed , the former because the programmer of Flight Unlimited 's computational fluid dynamics system , Seamus Blackley , had left the company .

The team sought to create an immersive world for the player and to compete with the Microsoft Flight Simulator series . Commercially , Flight Unlimited II performed well enough to recoup its development costs . Critics lauded the game 's graphics and simulated airspace , and several praised its physics . However , some considered the game to be inferior to Microsoft Flight Simulator ' 98 . Following the completion of Flight Unlimited II , its team split up to develop Flight Unlimited III (1999) and Flight Combat (later Jane 's Attack Squadron) simultaneously . Both projects were troubled , and they contributed to the closure of Looking Glass in May 2000 .

= = Gameplay = =

Flight Unlimited II is a flight simulator video game : its gameplay is a simulation of piloting real @-@ world planes . Players may control the Piper PA @-@ 28R @-@ 200 , de Havilland Canada DHC @-@ 2 Beaver , Beechcraft Baron 58 , North American P @-@ 51D Mustang or Cessna 172 . The interactive cockpit of each plane is based on its real @-@ world counterpart , and it contains simulated flight instruments such as an airspeed indicator , a heading indicator and a VOR indicator , among others . The player begins by engaging in a Quick Flight or by using the fixed @-@ base operator (FBO) interface . In a Quick Flight , the player selects a plane and the flying conditions before taking off ; the FBO interface features additional options , such as lessons , flight plans and adventures . The game 's six lessons detail such maneuvers as takeoffs and taxiing . Adventures are pre @-@ built missions , with objectives such as landing on an aircraft carrier , helping a prisoner to escape from Alcatraz Island or dropping turkeys into Candlestick Park . There are 25 adventures in total .

The game is set in a reproduction of 11 @, @ 000 square miles of the San Francisco Bay Area . The player may land at or takeoff from the area 's 46 airports . Weather conditions such as rain , wind and fog are simulated . Players share the game 's airspace with up to 600 artificially intelligent (AI) planes , which fly and respond to the player in real @-@ time . Real @-@ time air traffic control (ATC) directs the player and the AI planes to prevent collisions . The player interacts with the ATC and with other planes by constructing radio messages with a menu . Three cockpit views are available : IFR (instrument flight rules) , which allows the player to monitor and interact with all flight instruments ; VFR (visual flight rules) , which features a larger windshield area but fewer flight instruments ; and Virtual Cockpit View , which allows free look but features no interactive flight instruments . External camera angles are also available , and the player may ride as a passenger in any AI plane .

= = Development = =

Following the completion of Flight Unlimited in 1995 , project leader Seamus Blackley planned to use that game 's computational fluid dynamics (CFDs) code to create a combat flight simulator called Flight Combat . However , a new manager at Looking Glass Studios demanded that Blackley instead design a direct sequel to Flight Unlimited . Blackley refused and was fired , leaving the company in late 1995 . Constantine Hantzopoulos became the lead designer and project leader of the fourteen @-@ member Flight Unlimited II team . The team eschewed the aerobatics focus of their previous game in favor of general civilian aviation , in order to compete with the Microsoft Flight Simulator series . Looking Glass announced the game on December 18 , 1996 . It was slated to

include 6 planes , 45 airports and 8 @, @ 500 square miles of terrain from the San Francisco Bay Area . The Bay Area was chosen because of its varied landscape and numerous airports . In January 1997 , Eidos Interactive partnered with Looking Glass to provide the game 's marketing and distribution .

The team opted not to reuse the technology of Flight Unlimited . Hantzopoulos learned from Blackley that it was necessary to recreate the " visceral feel " of real flight , but Blackley 's CFDs system was " all black box spaghetti code " that the team could not understand . Programmer Jim Berry , who had previously worked on simulators such as Falcon 4 @. @ 0 , wrote new physics code based on force vector calculations to replace the CFDs system . To gather data for the new physics , Hantzopoulos and Berry flew in real @-@ world planes with designer Ed Tatro and aerobatic pilot Michael Goulian . James Fleming coded Flight Unlimited II 's new terrain renderer , ZOAR . Flight Unlimited uses distance fog to limit visible terrain , but this causes pop @-@ in issues that the team sought to avoid in the sequel . Instead of removing textures that exceed the draw distance , the new engine uses mipmapping to lower the polygon count of distant terrain . This increases the viewable area and allowed the team to use fog as an atmospheric effect , rather than as a " crutch " .

The team 's goal was to create the " best , most realistic civilian flight simulator " , which would provide an immersive world for the player . Radio communications between ATCs , AI planes and the player occur in real @-@ time : a " sophisticated audio splicing system " gathers pre @-@ recorded voice fragments into contextually appropriate sentences . The team recorded the engine noise of each of the game 's planes , and they designed cockpits more interactive than those in Flight Unlimited . Roughly 300 times more terrain area was included in Flight Unlimited II than in its predecessor . To generate the terrain , the team combined digital elevation maps with satellite imagery rendered at four square meters per pixel . The images were taken at 9 : 30 am , because the long shadows provided an illusion of depth . 3D models were used for all buildings taller than nine stories . Because of the terrain detail , the game was the first to allow players to follow VFR . Initially , the team planned to include only VFR flight , but they later enabled IFR to " ease navigation " . The team hoped to add more terrain and planes and a multiplayer feature after the game 's release .

The game was shown at the Electronic Entertainment Expo in June 1997 , alongside The Dark Project . At the show , the team detailed early plans to include missions . The game was well received , and Combatsim praised it as " the next level in civilian flight sims " . Denny Atkins of Computer Gaming World liked the game , but he questioned Looking Glass 's decision to compete in the civilian rather than the combat flight simulator market . That August , Looking Glass merged with Intermetrics , a technology company that hoped to branch into the video game industry . The merger came amid financial difficulties ; a large portion of the Looking Glass staff was laid off during the middle of 1997 . Looking Glass 's Tim Stellmach and Paul Neurath described the merger as amicable , and the former noted that " through the whole deal everyone was really psyched about both The Dark Project and Flight Unlimited II " . In September , Eidos took over publishing duties on Flight Unlimited II , as a result of Looking Glass 's new business model with Intermetrics . The game was released on December 12 , 1997 .

= = Reception = =

Flight Unlimited II was placed in direct competition with the Microsoft Flight Simulator series and Sierra Entertainment 's Pro Pilot , and it performed well enough to recoup its development costs . PC Gamer US 's Stephen Poole commented that the limited environments of Flight Unlimited did not create a believable flight experience , but that the " exquisite terrain , impressive flight @-@ physics models , and meticulous attention to the details and procedures of civilian aviation " in Flight Unlimited II created " the closest experience to actual flight " available . He praised the game 's ATC system , which he considered to be " so real that it 's almost scary " . Poole summarized , " Flight Unlimited II is so impressive that to even whine about little details shows a shortsightedness that 's all too common amongst us gamers . "

Denny Atkins of Computer Gaming World believed the game to be the first simulator to recreate " the

real feeling of civilian flying " , particularly because of its graphics and ATC system . He considered its flight physics to be " much better than Pro Pilot , although not up to the level of Flight Simulator 98 " . He finished by calling Flight Unlimited II " a must @-@ have for any general @-@ aviation enthusiast . " John Nolan of Computer Games Magazine found that the new flight physics were " more than adequate for the task at hand " , despite certain " questionable areas " . He praised the graphics and ATC , but noted AI glitches with the latter . He summarized , " Overall , this simulation is somewhat above average " . Dean Evans of PC Gamer UK called it " the best civilian flight sim we 've ever seen " , which makes " Flight Simulator look like a sack of old spam " . He found the game to be " immensely realistic " and praised its terrain and simulated airspace .

PC Zone 's Paul Presley believed the game to be inferior to combat flight simulators and stated that it " isn 't nearly as deep or varied as Microsoft 's Flight Simulator ' 98 " . He found the graphics to be lackluster and the terrain to be " a bit empty " , which he believed damaged the game 's atmosphere . However , he noted that Flight Unlimited II 's " underlying playability " made it " worthwhile " and " addictive " . Presley summarized , " [A] s a time @-@ waster , a novelty item or an office toy , it does the job and it does it well . " Jonathan Gordon of The Independent wrote , " The original Flight Unlimited promised much but delivered relatively little , and it 's a similar story with this sequel . " He noted that the graphics , while good from a distance , became " disappointingly bland " up close ; and he found the game to be limited compared to Microsoft Flight Simulator ' 98 .

= = Aftermath = =

In April 1998 , Looking Glass released a patch for Flight Unlimited II that included six new adventures , a new plane (the Fokker Dr.I) and an " Adventure Builder Kit " , which allowed players to construct their own adventures and to share them online . The patch also added moving objects on the ground . After completing Flight Unlimited II , certain members of the game 's team wanted to develop Flight Unlimited III , while others wanted to create Flight Combat . Looking Glass split the team in two and expanded both with new hires , so that the games could be developed simultaneously . Flight Unlimited III lead designer Peter James later wrote that his project 's development was troubled , in part because of a lack of interest from company management . It became one of Looking Glass 's biggest commercial failures . Flight Combat (renamed Jane 's Attack Squadron) struggled through a long and costly development cycle . Both projects contributed to Looking Glass 's closure in May 2000 . Mad Doc Software later completed Jane 's Attack Squadron , and it was published by Xicat Interactive in March 2002 .