

WINGS OVER FLANDERS FIELDS

DETAILED FEATURES AND DEV COMMENTS found previously on www.overflandersfields.com

(Document knocked up very quickly by Polovski October 2017, updated 2 December 2017:

This info may be a little erratic but is taken from the previous website and made into PDF for those that want this information. There were simply too many features to list on a website!

Note the although there is a section on WOFF ULTIMATE EDITION included most of these comments were written well before that release, so some comments may not cover the full scope of features now).

See the website Product page for more up to date details.

Sections;

WOFF FEATURES OVERVIEW

This part is for WOFF1 mostly, see later sections for more features added in WOFF2, WOFF3 and WOFF UE. See the website Products page for full aircraft list now!

DEV COMMENTS

AI (ARTIFICIAL INTELLIGENCE)

CAMPAIGN FEATURES

GENERAL INFO

SCENERY FEATURES

NEW ADDITIONAL FEATURES IN WOFF ULTIMATE EDITION!

FINAL SECTION GOES OVER FEATUTRES ADDED IN WOFF2, and WOFF3 for the record..

WOFF FEATURES OVERVIEW:

(NOTE THIS IS FOR WOFF versions before Ultimate Edition was released, there are many features and aircraft added up to and including WOFF UE. See the website www.overlandersfields.com "Product" page for more or read further in this document.

In WOFF 3; 78 main flyable aircraft types, plus 4 training aircraft included in WOFF UE - all with authentic and highly detailed 3D cockpits and exteriors.

Includes such craft as ;

Sopwith Snipe - The famous Sopwith fighter aircraft of World War One, possibly the best fighter of the war, alongside the Fokker DVII.

Morane Type "L" Parasol 2 Seater version - The legendary Cecil Lewis and other Aces flew this type early on. Aviatik CI - 2-Seater, a workhorse German aircraft.

Rumpler CIV - 2-Seater aircraft

BE2c Early version - with your observer equipped with a rifle!

BE2c - Training variants (for Solo flight and as a pupil)

BE12 - Single seat Fighter version of the BE2 family, with side fitted Vickers.

SE5 - Early 150HP variant.

N23 - Lewis variant.

Plus some NEW versions of these aircraft:

NEW Version of Fokker D.R.I

NEW Version of D.H.2

NEW Version of D.H.2 later (mid 1916)

NEW Nieuport 17 Bis variant

The Full List of flyable aircraft in WOFF 1 comprises

(many more in WOFF2, WOFF3, and UE added see website [Products](#) page for new full list) :

German Machines:

Albatros D.III (early)

Albatros D.III OAW

Albatros D.III

Albatros D.V (Later)

Albatros D.V (Early)

Albatros D.Va 200 PS

Albatros D.Va

Albatros D.II

Aviatik C.I

D.F.W. C.V

Fokker D.R.I

Fokker D.VII OAW
Fokker D.VII
Fokker D.VIIF
Fokker E.III
Fokker E.V/DVIII (mono-wing)
Halberstadt D.II
Hannover CL.III
Pfalz D.IIIa
Roland C.II
Rumpler C.IV

Allied Machines:

Bristol Scout D
Bristol Fighter F2b
D.H.2
D.H.2 Early
D.H.5
F.E.2.b
Morane "Parasol" Type L
Nieuport 11
Nieuport 16
Nieuport 17 Lewis gun
Nieuport 17 Vickers gun
Nieuport 17 Bis (two guns, Vickers and Lewis)
Nieuport 23 Lewis gun
Nieuport 24 Bis Lewis gun
Nieuport 24 Bis
Nieuport 24 Lewis
Nieuport 24
Nieuport 28
R.A.F. B.E.12
R.A.F. B.E.2c Early
R.A.F. B.E.2c
R.A.F. R.E.8
R.A.F. S.e.5 (Early variant, 150HP)
R.A.F. S.e.5a
R.A.F. S.e.5a Viper
Sopwith Camel
Sopwith Pup
Sopwith Snipe
Sopwith Strutter B1 (Single seater fighter/bomber)
Sopwith Strutter
Sopwith Tripe (RNAS Twin Vickers variant)
Sopwith Tripe
Spad VII
Spad XIII

FRENCH;

PLUS 2 more in added with WOFF UE, Caudron G4 and Breguet 14

More Features:

- 1) Approx. 1500 authentically researched aircraft skins included in WOFF 1, plus another approx 4500 in the optional Skin Pack add-on. (update: Note with WOFF UE the skins Pack is free).
- 2) Realistic propeller blurs.
- 3) Engine 'Blipping' function for Rotary engine aircraft.
- 4) Realistic Gun Unjam control.
- 5) Realistic ground bumps and wheel suspension systems as well as engine vibration effects that vary from craft to craft.
- 6) Random Failures: All aircraft are subject to random mechanical and or structural failure based on known traits and flaws of the machine being flown.
- 7) Observer Guns will damage your own aircraft if you are careless in your gunnery.
- 8) Realistic Damage modelling and extensive damage effects - damage e.g. fire damage progresses over time as it spreads.
- 9) Smooth and Responsive TrackIR viewing in Virtual Cockpit mode.
- 10) Additional add-on packs of aircraft and associated squadrons will be made available in the future.

∴ WINGS: OVER FLANDERS FIELDS ULTIMATE EDITION has new features and incorporates all the amazing features of WOFF1,2,3 and 3 addons!

: DEV's COMMENTS

WINGS: OVER FLANDERS FIELDS, Developers' comments on some of the superb new features, many not seen before in flight sims of this kind, and how they all combine to produce a full WW1 air war experience;

Wings Over Flanders Fields

AI Rules of Engagement, Craft Allocations, Directives etc.

Firstly we hope everyone understands that the AI are quite a lot more human in WOFF than in any sim that has gone before - they do not always engage and nor do they always fight to the death - like humans eventually survival instincts kick in.

There are many many factors that affect whether a Flight/AI Pilot will engage:

1) Situation - number of enemy vs number of friendlies;

- Above or below and how far above or below?
- Altitude speed direction?
- Can they catch them?
- Over friendly or enemy territory?
- How far to nearest lines?
- What are our Fuel and Ammo levels?
- Is attacking this flight the mission objective?
- Are we being attacked?
- What type of enemy craft are there?
- Has the leader spotted them?

(Note: vision acuity varies by skill rating and weather, clouds block view and haze shortens view distance).

2) Morale and Skill

- How good is the AI individually and as a group (their skills) ?
- How is their morale currently?
- If in a 2-seater do they have escort (escort boosts morale a bit)

3) Craft state and Pilot health

- How good is the craft he is flying?
- What condition is his aircraft in?
- What capabilities does his aircraft have?
- What health does the AI have?

4) The Morale of the AI pilots changes over time in your squadron - either getting better or worse depending how you all fare.

5) If you want the AI to ALWAYS ENGAGE like robots, and like most sims, then by all means set this option ON in workshops. Setting is good for QC fights if you prefer but remember to turn it off for campaign normally.

6) If you want to always engage, or try to climb up to 10000 feet to catch an enemy flight when you are at 500 feet, but do not want to set the AI Always Engage setting on (it affects every AI out there) then ALWAYS LEAD the flight - setting in workshops. Or enlist in a poor Squad with no Aces and with a high rank for yourself.

But be aware your AI Squad mates may not be in a hurry to be as foolhardy as you.

What ADDITIONAL factors affect the AI once in an engagement? :

- 1) The abilities of the craft he is in, with regard to manoeuvres
- 2) His skills ability to execute manoeuvres
- 3) Fatigue - its tiring to keep hauling a WW1 machine all over the skies

(1 and 2 also including dynamic changes due to damage)

What Other factors can affect the AI in Transit? :

- 1) If the AI decide to RTB they may seek out the nearest friendly airfield rather than risk going all the way to their homefield - depends on craft damage and pilot health factors.
- 2) If the homefield is busy or many craft have already landed again they may divert to another nearby friendly field.
- 3) If the AI is breaking off due to morale issues they may well return to their homefield, or another field, out of formation.

Note: the AI will always land properly at a field if he is undamaged (Pilot and Machine), or in an open field, if he is has sustained Machine or Health damage but still has sufficient Machine control.

What determines the skill and morale of my AI squad mates? :

- 1) The historical rating of the Squad you are in and the number of historical aces in the Squad basically affects the skills that your pilots have, existing and new incomers, as well as the base morale - the base morale of your squad mates will improve or get worse depending on how the missions pan out over time - deaths rate success rate etc..

What determines the aircraft I have been given? :

- 1) Each Squad is allocated the historically correct craft (3 types are active at any one time) and they are assigned in order of Historical Ace and then Rank - the lower your Rank the older the craft you will be allocated - carry out successful missions and you will get a better craft when you get promoted....
- 2) By Manually enlisting in a squad you can enlist at a high Rank...and get access to the better craft as soon as they come off the assembly lines.

You can find this Manual Squad Deployment button by clicking Pilot Dossier Button on WOFF main menu, then click the "Enlist New Pilot" button, and then look to the bottom right of the screen.

- 3) You can also Transfer to another squad.

What determines the role of A Flight? :

1) The CO controls the roles of all flights and sometimes A flight may be going up with you to assist directly in the objectives or indirectly by protecting you - or they are flying elsewhere at another time and mission directive.

2) When will I be allocated to A-Flight - you won't and it is of no significance pretend A is B and B is A if you wish.

Where is the Enemy on Intercepts and Scrambles? :

1) Intercepts - generally these are reports from frontlines units over WT or telephones (not in early war) that craft have been seen coming over the lines - go to the front line sector and try and intercept them and the range can be quite far sometimes - best to loiter a bit and see if you can spot them and hit them on the way back etc. as they did in WW1

So of course the chances of intercepting them on this poor info from the relatively 'distant' frontlines is not that good with WW1 limited technology - but they are there and it's a real scenario.

2) Scrambles - these are now reports from more local 'nearby' sources - nearby observation balloons, local airfield observers and nearby ground units in a certain limited range from your airfield. So, compared to Intercept these enemies are a LOT closer - but they are seldom raking you as you take off. The intended targets for these incoming raiders are now quite close to you - nearby or even sometimes your field. Note Reccy craft incoming may not even bomb their targets but are there purely to gather intel - but be sure their target is nearby or even your field. Use this knowledge to plan your scramble mission accordingly.

So unlike OFF they will not be right on top of you every time at the start of the mission - you still have to look and seek and engage - or not.

Remember:

The enemy is moving!

If you are Allied then the Hun, if in two seaters will be high, and only two seaters will go over the lines - the Hun fighters seldom went into Allied Territory - use this knowledge when flying to your target to better help Intercept and Scrambles.

The Allied fighters on the other hand often did go over German held territory. So Scrambles from German fields can involve either fighters or two seaters and you will have more chance to catch an enemy.

There are up to 256 craft in the theatre at any given time depending on your workshop settings, so if you miss the Intercept or Scramble objective (don't worry it happened a lot in WW1!) the theatre is still alive with flights so if you are leader or want to lone wolf it - go for it and explore.

What determines when I lead B flight? :

1) Rank determines when you lead B Flight - if you are the highest Rank in the flight that mission then you will lead. Historical Aces can sometimes create exceptions to this.

If you are in a poor squad you may find yourself leading quite early on and to start with maybe not every flight - all depends who is up there with you and their Rank.

In an Elite Squad it may take some time, if ever, before you get to lead - Manually enlist in an Elite Squad if leading is not your forte.

2) In Workshops you can select Always Lead if you want to override the Historical Rank and Squad Rating system.

I have been given a Mission that I don't like:

1) There are a few options available to you though although of course in WW1 you had no choice and you could be shot for LMF.

In workshops set Campaign Date Advance from Auto to Auto/Manual.

Now in the main Campaign interface bottom right you will be able to advance time so when in the briefing room simply go back to the main campaign screen and advance time.

However note that often you may see the same mission again that has to be done - sorry that's war and Patrolling is probably one mission you won't get away from.

But there are some rarer mission types that you may elect to skip.

My Missions are very repetitive:

1) War is hell and sometimes war is even repetitive - patrol patrol patrol until you die this is how it was for some squadrons - especially for the German Fighter Pilots who seldom went very far into enemy territory. There is a non-historical option available to you in workshops to tailor this to be a bit more variable. Some squads will have more variable roles, so check out others too.

In workshops set Historical Mission Types from On to Off (look to the bottom right of the Workshop options screen).

This will add extra mission variations for pilot/flight but is no longer historically representative of the Squadron's operations in WW1.

Why don't we always go home in formation? :

1) In WW1 the concepts of formation flying and maintaining formations was in its infancy. Often the pilots would end up disoriented after a dog fight or ground attack mission and due to many issues would break off and head for home singly or in pairs or sometimes in smaller groups - fuel ammo and other factors could make them do this or simply a feeling that the job was done so RTB.

Often they would lose sight of their squad mates and again simply go on home alone - shaken and wary of attack.

This is how it is in WOFF often formations are no longer adhered to after a bitter episode of fighting or attacking ground targets and the AI will simply dribble in back to land.

Factors that can affect this individual RTB are:

Fuel and Ammo levels ; Pilot Health less than 100% ; Craft Damage levels ; Morale Levels

Other times especially on Routine Patrols etc the formation keeping is maintained and they all go home in their formation - especially if no action took place.

I see AI Sometimes Colliding with each other and/or with the player? :

Collisions in WW1 were a very real everyday risk - along with mechanical failure - and they happened between friendlies and in the heat and swirl of dogfighting between friend and foe, and even in other situations. Even famous Aces fell to collisions with friendly or enemy.

Whilst it is possible to make the AI like 'robots' that never collide and never make mistakes - we have not chosen to do this.

Rather as an example: take two opposing AI, they might choose to turn in the same direction to avoid each other in a head on - same as what can happen in real life.

In the same vein if a player is not keeping formation correctly and drifts towards an AI and the AI just happens to be drifting towards you a collision can occur - exactly as it did in real life in WW1.

Remember the AI has the same craft as you - same roll rate, engine power, FM etc and his ability to avoid you is only as good as what the craft can perform at - once he has seen you that is!

He cannot suddenly warp out of your way! (we could implement this 'warp function' but it's simply not realistic is it?) we could even have made the AI "pass through" each other as per other sims but chose to do it the proper way.

Whilst mentioning the AI and whether he has seen you, note too that the AI don't have 360 degree vision they scan the skies so it takes time for him to see you just as it takes time for you to see him....and his ability to see is related to his skill rating Ace Veteran Average and Rookie. Aces having better sight than Rookie.

Moreover his reaction time is also configured to be related to his skill rating again an Ace reacts faster than a Rookie.

Collision avoidance Tip 1: - Maintain Formation! Keep your eyes on the AI you are meant to formate with - yes it's not easy.

Collision avoidance Tip 2: - Try different formation types! Some are easier than others.

War is hell and flying with other aircraft is risky - collisions will occur.

Sometimes the AI take over and lead the formation - I am leader what gives? :

If the AI perceive that you are in trouble and think you are no longer able to lead properly a new leader takes over to carry out the mission.

In trouble might mean:

You have a mechanical problem - your engine has a malfunction and you are looking to land - note that the AI don't know if you have actual engine trouble or not but determine this if you are flying too slow or losing altitude too quickly for a certain time period.

The Fighters/2 seaters that I am meant to be escorted by/escort are not at the rendezvous point - where are they? :

Sometimes the flight that you are meant to link up with are jumped or suffer mechanical failures and turn back so yes they are not always there to meet up with you.

Also if flying full real you may battle to locate them - the TAC and other aids can help - but yes it was not easy in WW1 either.

Try loitering around the rendezvous point to see if you can locate them - the 2 seaters are often performing a fairly large circle depending on machine type.

Finally switching on Auto pilot is another way to get a bead on them.

If you fail to link up don't feel bad - it happened in real life too - and there will be more opportunities later.

"My stats said that out of the 4 bombs I dropped, 21 hit, giving me a 525% accuracy. I didn't think I was that good - what gives?" :

Explained many times: bombs explode and can damage more than one object - that's why man invented them.

- Winding Man, OBD Software.

Update: More information on flights' mission objectives ;

Supporting Flights:

AI will fly to the same target and attack it - if possible.
They do not formate or stay with player flight

Top Cover Flight:

AI Will fly to target and loiter at altitude over the target (Top Cover) and attack any incoming enemies - if possible.
They do not formate or stay with player flight (they also may not get there).

Escort or Escorted:

AI will track your flight and aim to protect you or vice versa - they will stay with you and do their best to protect or you must stay with them and protect them.
They formate and stay with player flight in protective role all the way to target and back as best as possible.

If possible: AI will ALWAYS look after themselves as a first priority - they are human as best we can make them right down to individual morale levels.

They may:

- 1) Run away and not get to the target if faced with overwhelming odds.
 - 2) Be attacked by other AI
 - 3) Attack other AI and then limp home
- etc...

This document was produced in 2014, and of course more has been added or tweaked since but the information it still very relevant today for WOFF Ultimate Edition.

General comments:

Enemy and Friendly aircraft how can I spot view them?

Several ways in WOFF;

1) Bring up your TAC 'Shift+T' (toggle)

Press 'TAB' to select an enemy Target or 'Shift-TAB' to select a friendly - the 'item' will go yellow in the TAC. Now cycle/switch the view pressing 'F1' a few times until it says at the top: Player Target View. Now 'V' will toggle the view between player à target, and player ß target. Notes: (Pressing T also changes target types to narrow a search to only certain object types. Pressing "tilde" (~ or ´ on some keyboards) will padlock this target if you are in the cockpit when you select a target first).

Also if you wish you can now remove the TAC and Tab key will still cycle through targets easily whilst in Player Target views.

2) Use the Observer view mode (a new free camera mode).

Observer mode is experimental NEW mode.

To use observer view, press J, now **rotate view with twist Z axis rotate joystick** and push forward back to move forward and back, **use numpad 8 and 2 (up down arrows, with numpad enabled)** to climb/dive view.

Note rotate with the joystick is for twist sticks. It may be your rudder that controls the rotate.

And remember it is experimental if it doesn't work well or you find rendering problems far away from the player please do not report them we cannot respond or discuss - please don't use it if this bothers you.



Immersive and Intelligent AI

MORE COMMENTS FROM THE DEVELOPERS ON THE IMMERSION OF WOFF :

"Our focus was to bring the most immersive Single Player WW1 experience we could. In WOFF **some features will work together to achieve this. For instance, a first in WW1 simulators "Dynamic Morale"**

will play a big part during flights and combat. Maybe an AI pilot has been shot up, or has seen another flight coming in to attack you and wants out, leaving your back uncovered! Together with other features such as Dynamic Combat Fatigue this will totally affect how missions and dogfights play out.

"Another example is real AI decisions - the escorting AI flight really do try to look after the 2-seaters - they will not just follow some pre-determined path only, but intelligently assess the situation. This kind of decision making is across many areas of the new AI!

"The AI also has many other great features such as Vision and a Full Auto Pilot for when real life interrupts ;). He will fly as well as other AI pilots around you and try his best to do you proud (or die trying)."

Engrossing Real Dynamic Campaign Engine

"Auto or manual pilot deployment (with optional training) is more immersive and together with **detailed and accurate local squad operations, you will more often come across enemy squadrons in your region and get to know them! You can find out who you may meet in the Intelligence room!**

"Multi Role, Multi aircraft situations with changing craft types, mixed pilot, mixed craft, especially seen in early years. This feature is nicely enhanced with coming add-on packs.

"WOFF includes real dynamic features in campaign: Aircraft Damage in battle can affect next flights if your craft is still in repair. Spares will have a direct effect on player craft repair and ammo/fuel etc. Outcomes from the missions are now more than ever tracked and used for claims, pilot and aircraft attrition and so on.

Easy to use Claims system with pull down menus to select witnesses on claims (you still must choose valid witness) and of course Balloons can be now be claimed at any time!"

WOFF of course still has a *Dynamic Front line that moves over time with major offensives*. **To compliment the air war 2450 historical pilots and Aces are included** across squadrons! Includes famous and not so famous Aces but also real ordinary pilots all found in 350+ historically researched squadrons. "

Real World Action

"NO "spawns" or artificially created aircraft flights suddenly appearing. ALL aircraft are on their own mission. This is more apparent as you can for example see aircraft taking off on later flights at other fields on other missions they will complete even if you are not around! You may even meet one launched to intercept your flight. Together with the decisions the AI makes this makes for a more dynamic immersive environment."

Realistic Scenery and Scenery hues

"WOFF's new Scenery has carefully researched colour hues (seasonal too), superb airfields, buildings and layouts, towns, cities and more. Higher detailed terrain texture when lower down improves the experience. More than 20 different /unique landscape states (plus each of those in France and Belgium each with 12 different states of the front lines moving)." Many other great additions such as towns become destroyed and decay from war damage over time as the front lines swing to and fro engulfing them. See the [Scenery Features](#) section for more.

Labelling System

"The brand new label code, with several optional modes including with DOTS option and others gives variable immersion in the ongoing war around. You can cycle modes, or combine modes, or simply turn them all off with a key press"

The dots are of course only labels, but they aid you to see there is active world around you without being as intrusive as full labels.

Engine and component Failures!

"Now we have added engine failures, and components failures such as coolant leaks and oil leaks. Also, we have the ability to have custom engine failures. For example, the HS powered SE5 and SE5a will have an increased failure weighting due to poor gearing on geared HS engines!"

Remember if you get a failure on take-off **do not turn around!**

Quick Combat

"For those that are in a hurry or want instant Action, Quick Combat with many extra options, extra flights, and a save feature!"

Damage Modelling

"Damage Modelling is improved in many areas, more realistic and crash landings are more possible to survive rough landings for you and for the AI! Engine fires will spread from components, you will have to experience it yourself.

Trees can sometimes be damaged, aircraft can now survive a shallow crash but heavy crash will destroy, and also destroy trees or crash into them."

Other Features

"New Map system and situational awareness aids, and information readouts (all optional).

Brand new keyboard, controller and graphics setups.

War end - at the end of the war we will collate your career and show results of final claims etc.

and so much more to discover in Wings: Over Flanders Fields"



: AI (Artificial Intelligence)

Artificial Intelligence : The superb WOFF WW1 AI opens up many possibilities!

Physics, Collisions and Artificial Intelligence: Thinking AI Pilots

∴ The Aircraft Physics have been revised for Wings Over Flanders Fields:

All AI craft now use the same flight models and engine models as the player craft - they have no advantages, so they are flying the same complexity of flight model as the player. This includes ammo weights, wind forces and more.

Improved collisions for more immersion. All aircraft physics are more realistic than before especially when disintegrating or colliding with objects or the terrain including AI aircraft.

∴ **Collisions have improved effects:**

Scenery and Object collisions are now improved with differing effects depending on the speed of collision as well as the hardness of the object into which the aircraft is colliding.

∴ **With the Brand new AI code for Wings Over Flanders Fields the AI behaves more like a human pilot; his fears, skills, and mortality all play a much more important part:**

Each AI pilot has a complete set of key human-like abilities that determines how he behaves - Skill and Morale being the major components of this.

AI no longer simply fight to the death, they evaluate their surroundings for enemy and friendly craft alike and can change their behavior accordingly to these dynamic ever changing conditions as they carry out their missions.

Some of the dynamic conditions considered include ;

- Number of Friendly craft in their Flight and condition, altitude, speed, direction and ability of craft.
- Number of enemy craft in vicinity that have been seen and their condition, their ability, altitude, speed and direction, and even the type of the aircraft!
- Condition of the AI's own aircraft and his own health.
- Proximity to/distance over enemy front lines and which side is below him.
- If flying a 2-Seater without support morale may be lower, but enhanced if an escort is protecting the flight.
- **Fatigue** - each AI pilot can become fatigued over time in the grueling dog fights and their skill and morale becomes diminished over time as they get tired from the G forces (!) and effort to move the control stick - if too fatigued they will may break off the fight and attempt to recover or break for home.

Based on these criteria, and others, the AI is constantly evaluating whether to stay and fight or flee to

home base or nearest friendly base, or simply to try to continue on and carry out the mission. Above all they try to preserve themselves and their machines, as any human would!

.: **New AI Vision** - the AI constantly look around the skies as they fly, to try and see any enemy flights - they do not always succeed, and they also cannot see through clouds and visibility distance is reduced in haze. Their skill rating also affects their vision acuity. This applies to pilots and observers/gunners. Thus it is possible to sneak up on unsuspecting aircraft crews.

.: **WW1 Flying Skills** - The AI pilot's skill rating affects the complexity of manoeuvres he may know, as well as the AI pilots integrity when it comes to dog fighting over the battle scarred landscapes or bombing airfields and other targets. For example, an Ace pilot will know more manoeuvres than a veteran pilot and attempt them with more skill and vigour!

.: **Trained AI** - AI are competent to fly WW1 aircraft and actually go through special training by us (yes, they have the ability to be taught how to fly new aircraft!) to competently use the aircraft they are flying and can do everything from take-off, navigate, fight, land and much more. For example they have new low level flying and fighting abilities according to their skill levels, all the while constantly evaluating the environment.

.: **Ground Attack** - New fantastic ground attack skills - the AI now co-ordinate attacks on ground targets and will break off at suitable moments depending on state of ammunition and or other threats to their safety!

.: **Random Failures** - AI Aircraft (as well as Player Aircraft) are subject to random mechanical or structural failure based on known traits and flaws of the machines they are flying at the specific time. AI try to control their aircraft and emergency land or try their best to survive a crash landing.

.: **New Landing Abilities** - A virtual and hidden Airfield landing controller helps to ensure correct flight and machine behaviour when landing at home or nearby fields for multiple and or large squadron flights - this means AI can understand complex airfield situations with multiple craft and flights landing on the same field. They also can attempt to ditch or crash land a damaged aircraft.

.: **Allow you the Pilot to Exercise control** - over the AI pilots in your flight, provided you have sufficient rank, with commands such as Attack, Return to Base, Rejoin, Land here etc.

: CAMPAIGN FEATURES



Campaign Features

∴ WOFF is primarily geared towards a real-time, **fully immersive single player dynamic campaign system**, designed to immerse the player in as realistic a world as possible, and to recreate as closely as possible the first world war, in a 'living world' about them. The WOFF interface also manages all aspects of the dynamic campaign and can take full advantage of WOFF AI and new features.

∴ Enlist in an immersive dynamic campaign as a WW1 pilot in one of four Nations; Britain, France, USA or Germany.

∴ Career dates range from early 1915 through to the completion of the war with up to 55 aircraft types available in the release version with more to come as add-on packs later. See the aircraft section for more details.

∴ Choose from one of many historical squadrons to enlist in - all available in the main WOFF 1 release version:

Britain: 42 Fighter squadrons ; 27 2-Seater Squadrons

Germany: 80 Fighter squadrons ; 101 2-Seater Squadrons

France: 79 Fighter squadrons ; 24 2-Seater Squadrons

USA: 14 Fighter squadrons

Many squadron specific skins are included so that you fly with the correct squadron insignia and markings for the chosen squadron. Note: Some squadron aircraft are not currently available, but we will be releasing more craft as add-on packs

∴ When choosing a Squadron you are shown where the squadron is based relative to the frontlines, as well as the Squadron Craft Complement, Ace complement, Morale, Activities etc so that you can easily launch yourself into a squadron that suits you and your virtual flying needs. Once in a squadron you can also use the Intelligence room check what the surrounding squadrons (enemy and friend) are.

Or you can **auto-enlist** and be assigned automatically to a squadron, electing optionally to undergo training at a home field first.

.: **Fully interactive Pilot log books** keep track of up to 100 virtual pilots that you may enlist at any given time. The Log Book reflects Pilot Biography, user selected Photograph and accurately tracks the flyers Flights and Hours, Claims and Victories, Awards, and General Squadron Details such as location, craft upgrades, transfers etc.

.: **Complete your training with your trainer** at a historically accurate location to get the required flying hours and move on to the action in your chosen squad, or just join the fray as an experienced Flyer.

.: **Fly and survive - file claims for your kills** (optional configuration settings allows kills to be awarded immediately) and climb the ranks and receive aircraft upgrades over time as the squadron historically did.

Your missions are largely tailored to the historical mission types that the squadron flew during WW1.

.: Lead your flight or be lead - depending on your rank (or optionally you can always lead your flight) as a leader you can control your flight with key commands and lead them to destiny.

.: With over 1000 targets of opportunity for any of the 12 frontline states (see scenery for more details) - fly and defend your nation in one of history's most bloody wars. (In effect over 12000 targets for the war)

.: Mixed flight complements: Fly with the Aces (many with their correct historically accurate skins and assigned to their historical squadron machines), and also fly in multiple mixed aircraft type flights!

.: Select your own personal skin (Players may create additional personal skins in their favourite paint program and use them).

.: Equip your flight and your personal aircraft load outs, from flight loads to individual pilot loads in your flight.

.: **File requests for a Transfer** to another squadron at any time. This may or may not be approved depending on your rating and the rating of the squadron you have requested to transfer to - it also takes time for approval. (Or select the configuration setting option for instantaneous transfer - no approval required and you transfer immediately!)

.: **Squad dynamics change constantly over time** with painstakingly accurate and detailed data research, for each and every squadron, to reflect the changing Craft Allocations, Airfield Locations, Ace Complements, Morale, Skill, Material and Manpower Issues, Current Role (defines squadron's historically accurate activities at that moment in time) and Frequency of Operations, to name a few.

.: **Fly in a dynamic world with no artificial 'air spawns'** - up to 250 aircraft are dynamically assigned to fly from real squadron bases on real squadron operations based on the squadrons historical detail data for that moment in time. If you deviate from your flight path beware: there is a war on, and you will run into these squads and ground units - for good or bad - together with active ground units.

Flights are sometimes waiting on the ground at fields to take-off or are 'scrambled for take-off and interception, based on in-coming AI craft approach or the players approach - a true 'living world'.

.: **Protect your men and material** - excessive losses can eventually lead to your squadron becoming grounded whilst you wait for your replacement pilots, aircraft or repairs.

.: **Visit the stores room** to evaluate aircraft stock and aircraft repairs status

.: Visit the 'Intelligence' room to get the latest on the war or evaluate nearby enemy squadrons that you are likely to encounter over the front lines! It is here that you can apply for Transfers as you evaluate possible squadrons to transfer to.

∴ Ground activity reflects the major battles as and when they raged along the frontlines for the duration of the war.

∴ A master 'Order of Battle' system controls the air and ground activity in each of 4 sectors - Flanders, Marne, Verdun and Alsace to reflect the dynamics of the air and ground war.

∴ **Accurate tracking of all player squadron** pilots, including the players A and B flight members, in runtime, for accurate post mission results and tallies. Each of the AI pilots in your squad have logbooks which you can peruse to evaluate their progression strengths, weaknesses, claims and kills, and even view their medals.

∴ Dynamically moving front lines modelled in 12 states follow the historical battle actions of the western front as accurately as possible from 1915 to 1918.

∴ Many historical Landmarks that become permanently damaged when they did historically.

∴ Fly with either dynamically changing weather or historically accurate weather - bad weather will see all air ops grounded. Other features include windscreens that are affected by weather (frosty, rainy, etc.).

∴ Pre Flight briefing interface shows details of the intended operation, waypoints, and target on an interactive map so that you are fully aware of what you have to do.

and more including **Terror Over England Campaign - defend England from Gotha and Zeppelin** raids, or fly for Axis and fly the giant Gotha bombers against England.

GENERAL INFORMATION

OBD is proud to bring what many are saying is the most immersive single player flight sim available for World War One. Many features you will discover yourself in Wings: Over Flanders Fields! Here are some of WOFF's superb features.

∴ Choose from one of many fully historical researched WW1 squadrons to enlist in:

Britain: 42 Fighter squadrons ; 27 2-Seater Squadrons

Germany: 80 Fighter squadrons ; 101 2-Seater Squadrons

France: 79 Fighter squadrons ; 24 2-Seater Squadrons

USA: 14 Fighter squadrons

∴ NEW Artificial Intelligence "AI"

Now a thrilling WW1 experience as the AI pilots possess knowledge of WW1 Fighting manoeuvres, Landing, Formation Flying, Ground attacks, Observer/gunner awareness, AI Vision, Dynamic Fatigue, Dynamic Morale, ability to handle Wind and Wind Bumps, and aircraft weight including various loads and more.
See : AI (Artificial Intelligence) section above.!

∴ NEW Campaign Engine

Controlled by a new WOFF Manager with hundreds of improvements, re-written to produce and control the many brand new AI and [Campaign Features](#). Note this campaign has absolutely nothing in common with CFS3 campaign it is a brand new campaign engine developed exclusively by OBD Software with special in-depth WW1 historical features for superb immersion in the WW1 airwar.

∴ Around 78 Flyable aircraft included from the start! No other sim WWI provides this may included flyables (2 more with WOFF UE).

Includes NEW and improved aircraft. .

∴ NEW Scenery and Scenery Objects

Stunning realistic colored landscapes.

∴ NEW 'Outcomes'

Now actual events are tracked more than ever and used within the campaign as discussed some in Dev Comments section above.

∴ NEW Damage systems

New damage controls and methods give more complex damage including fire damage spread, progressive damage, engine and component failures and more. See in Dev Comments section above.

.: NEW Full Original WOFF Musical Score

by MATT MILNE, 19 exclusive tracks and also includes the popular theme from previous release.

Available to purchase separately.

Combat Flight Simulator 3: Although WOFF is based on MS Combat Flight Simulator 3, it is nothing at all like it. With so many new features and new incredibly improved areas - forget what you know of CFS3! See the new features in this section, and look at the videos and screenshots on the Gallery to see a little of what to expect.

...and **so much more in WOFF** please see other features sections.
Here are just a handful examples:

- .: New In-Flight Map
- .: Immersion Labelling system, including DOTS option, Activity and Identity options for immersion.
- .: TrackIR - smooth fast implementation.
- .: Prop Blur - see the Prop from the Cockpit now.
- .: New Flight Training instructor, with flight instructor messages for key events.
- .: New Collisions
- .: New Engine Failures
- .: New Wind and 'air bumps'.
- .: New GAI flights - these will be waiting on ground to get the call to intercept you
- .: Gun Jams and Unjamming.
- ... and much more you will discover when you fly with Wings: Over Flanders Fields.

: SCENERY FEATURES

.: **New Scenery in WOFF UE some of the best-looking flight simulator scenery environments ever created.** New winter trees bring out the starkness of the winter landscape, each with its own realistic shadowing. Together with several "Snow" states and normal winter ground really adds to the atmosphere.

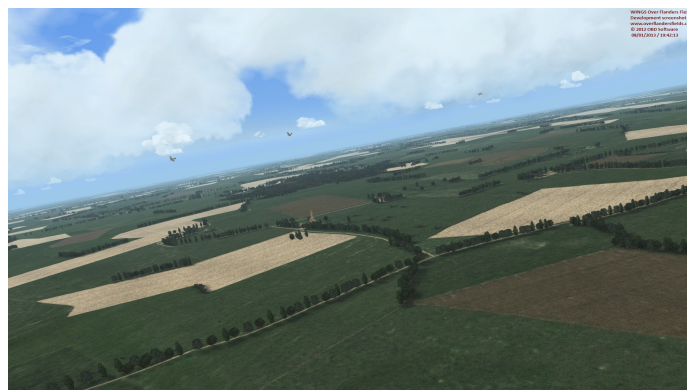
Highly detailed terrain textures to represent the various landscapes that the WW1 pilot flew over from pristine farmland to devastated frontlines and cities.

.: Land and Scenery progressively becomes damaged over time as the war entrenched and became stagnant, with vacillating front lines modeled in 12 'best fit' states over the course of the war.

.: Detailed period villages towns and cities, many becoming devastated over time.

.: Large vistas including huge wooded forests, ever changing skies and seasons .: The four major seasons are rendered with accurate hues and snow build-up and thaw is also simulated in autumn and winter.

.: Words alone cannot adequately describe all the scenery features so its best you head on over to the screenshot section!



.: Carefully researched colour hues for scenery for a realistic appearance to the overall hues in the various different landscapes in WOFF each with seasonal variations too. All easy on the eye !

Some newly added ground objects include;

Amiens Cathedral (and damaged version)

Verdun Forts

Ypres Cloth Hall

St Martins

Red Brick Factory/Works (Manfred von Richtofen flew near this on his final day).

NEW ADDITIONAL FEATURES IN WOFF ULTIMATE EDITION!

These are in addition to the incorporation of all previous WOFF releases and features:

- 1) Two new 2-seater aircraft Breguet 14 A.2 and the Caudron G.4. Both important French craft
- 2) New 3D Direct X Shaders for superb visuals in sim, with improved FPS, especially at airfields and self shadowing and more: - much improved rendering of shadows on aircraft and objects. Also now shadows will now remain visible from parts that are no longer in view. - new feature: dynamic ground shadows, fully replacing stock shadows with new much improved and faster shader versions. New performance from WOFF core engine too, combined with the new shaders and other optimisations gives a dramatic increase in FPS. This alone is a major point!
- 3) Fully revised French squadrons to bring the French campaigns in the Champagne regions of Marne and Verdun to life as never before. Extra French airfields in Marne, Verdun and Alsace sectors
- 4) Now Wide-screen compatible - 3440 x 1440 etc to allow users to take full advantage of the new ultra wide-screen monitors hitting the market.
- 5) Revised DM for all aircraft (Cockpit damage revised, aircraft will show damage more often, with more varied break ups, other miscellaneous improvements).
- 6) Implemented bomb load-out options and a detailed bomb rack model for the Roland aircraft.
- 7) Improved aircraft type deployment at Airfields by Nation: Bombers, Fighters and Specific fields.
- 8) Improved airfield facility scaling over the years as well as changing tree types depending on location of airfield
- 9) Revised and improved lighting systems at airfields eg hangar lights etc. All lights now work irrespective of craft taking off, or not, at that field. Come home to lights on at your field at late dusk, night or early morning!
- 10) Added smoke and lights to factory facilities.
- 11) Added 11 detailed 'Specific Airfields' rendered as closely as possible as they historically were. These fields are fully rendered for all season types: German Roucourt Boistrancourt Phalempin Cappy British Droglandt St Omer and St Omer Extension Mont St Eloi Vert Galant East and West Fields French Behonne Vadelaincourt Lemmes Additional airfields are in the pipeline for future expansions. Note some airfields are period dependant. i.e they only appear in certain time periods of the war.
- 12) New Winter Trees now bring leafless deciduous trees to the Winter, Winter Light, Winter Medium, and Winter Full Snow, terrain sets, as well as at airfield Facilities for more natural realistic looking airfields.
- 13) Improved Fine detailed distant object rendering in game.
- 14) Additional Building models for Airfield Facilities.
- 15) Earlier operation start times should realise more dawn Patrols, when you can see the dawn and camp lighting for immersive moments, feel the dawn of a new day!
- 16) Additional British UK airfields and types.
- 17) Ability to suppress/turn off precipitation effects (rain and snow) in workshops. (Flights are still cancelled on inclement days and weather is still fully variable, there are simply no rain or snow effects in flight).
- 18) Airfield bumpiness now changes with weather and season conditions

- 19) Craft wheel rolling sounds now change with weather and season conditions
- 20) Ability to allow 3rd party mission editors to modify the campaign mission just prior to runtime.
- 21) Improved dynamic ground bumps on fields.
- 22) Improved airfield night time Drum lamps.
- 3) Includes new RNAS squads for Caudrons.
- 24) Revised Damage rules to lessen craft instant destruction.
- 25) Updated graphical content for user interface.
- 26) Revised Flak effect

FINAL SECTION:

NOTE: JUST FOR THE RECORD BELOW ARE FEATURES ADDED PREVIOUSLY BY WOFF2, and WOFF3. i.e. prior to WOFF Ultimate Edition (WOFF UE).

They are detailed here below and of course all these are included in WOFF Ultimate Edition where possible.

: WINGS: OVER FLANDERS FIELDS EXPANSION 2 ("WOFF 2")

NEW FEATURES:

9 ADDITIONAL AIRCRAFT

(with associated Squadrons to ensure comprehensive campaign usage)! :

Gotha IV complete with all fully rendered gunner stations

Aviatik BI

Aviatik BII

Fokker EIV (Twin Machine gun version)

Halberstadt DIII (Argus Engine)

Zeppelin R Type (AI flyable currently)

Zeppelin P Type (AI flyable currently)

BE2C HD (Home Defence Type)

BE12 HD (Home Defence Type)

Many of these including the Gotha will be operational in the current theatre for example

EXPANDED CAMPAIGN FEATURES

Advance Time: by a day, a week, or a month to allow your squad to recover from a bad sortie - craft and men are replenished as appropriate, and a detailed summary tells you what took place for the period of advance.

Leave Request Button: now implemented - if the player has served more than 15 days since last going on leave he may submit a request for leave.

Note the request button only appears after 15 days have elapsed since last leave approval.

There are now two leave types - 48 hour pass if days since last leave is less than 45 days or a 5 day pass if days since last leave is greater than 45 days.

Time Advance to next Historical Date: If the player is in a region where historical missions are taking place a 'Time Advance to next Event Date' button will appear to enable him to optionally fast forward time to the next historical event date.

Note: The player may or may not be directly involved in these events - this is a region criteria advance. This button will not appear if there are no historical events in the region.

New Workshops settings: Encounters - High or Realistic to tweak the chances of encounters for those that want it.

A WW1 battlefield that now extends from England to Alsace on the Swiss border! You could fly from London to Switzerland in 1 flight if you have enough fuel!

Claims System Revisions:

If 'Log All' setting is not selected in workshops then no claims can be made for Quick Combat or Scenario Flights irrespective of Workshops Claims and Promotions settings.

Workshops Setting Claims and Promotions Normal:

A 'Make Claim' button is available in Mission Details page after every sortie - players must fill in a claim form by pressing the button himself when appropriate - there is no prompting to fill in a claim form.

Workshops Setting Claims and Promotions Easy:

The player is prompted and taken to the claim form to make a claim whenever he has an air victory.

Workshops Setting Claims and Promotions Easiest:

Claims are automatically made on the players behalf when he has an air victory - the claim form system is bypassed.

New Night activity implemented in England to reflect actual night activity in WW1.

IMPROVEMENTS AND ADDITIONS:

DX9 rendering option now built in via workshops to create dynamic self-shadowing of aircraft, dynamic ground shadows for ground objects, cloud shadows - all varying with the sun angle and moon.

DX9 Terrain Bump mapping and Improved Sea rendering - with minimal cost to FPS (does use more memory).

The lighting affects the feel of the sim, much more immersive. For example general overhead cloud cover will affect your available light and put your craft in 'overcast lighting' and then if you climb and manage to break through the cloud to sunshine you will be lit with sun!

Update: all DX9 effects improved more in update patch v2.06 and above! For example later updates added much improved smooth shading of horizon / clouds!

External Camera Field of View now settable in workshops (DX9 shader enabled) . New default is 35 degrees to give a much more natural view and remove the "fish eye" effect often complained about :)

Night effects have been revised to render darker flak and smoke at night.

New Searchlights added to theatre where needed- England and now in Europe (dynamically lit if using DX9 shaders).

Additional targets for long range bombing activity implemented in England and France.

Night complements and air activity implemented to better suit actual war time night activity.

Cockpit lighting in Gotha, BE2c HD and BE12 HD night fighters!

Modestly Increased Bomber and 2 seater Recce Air Activity in theatre.

Modestly Increased General Air Activity in theater.

Revised and improved Cliffs of Dover Geographic terrain models.

All British French and German Squads overhauled to include for more historical craft.

Revised AI morale factors to reduce 'fight to the death' scenarios even more, and to encourage better self-preservation.

Increased wind buffeting effects.

Some Terrain tile revisions and improvements.

'Newly planted Growing crops' terrain now implemented in Spring - England and Europe.

Distant Dots (of Aircraft) improved to more accurately resemble 'specks' in the distance with subtle colour change.

Note the new shaders may also give a good FPS (Frames Per Second) boost to some users as it now offloads some CPU calculations to the GPU.

EXPANDED THEATRE: "TERROR OVER ENGLAND"

Fly Home Defence in England and defend your country against incoming Zeppelin and Gotha Raids - Day and Night - on the actual times dates that they historically took place.

Fly attack missions to bomb England (Paris and other facilities in France too)

Fly With up to 12 accurately researched British Home Defence squadrons to choose from as well as with special Home Defence Machines.

Or Enlist in one of the Gotha IV Equipped Bosta squadrons in Europe near the Western Front, and fly day and night sorties against England, Paris and the French Channel ports.

Note: Night sorties by Bosta squadrons begin in early August 1917, as they did historically, prior to this they carry out day operations.

New additional Craft for this Theatre of Operations include:

Gotha IV complete with all fully rendered gunner stations

Zeppelin R Type (AI flyable currently)

Zeppelin P Type (AI flyable currently)

BE2C HD (Home Defence Type)

BE12 HD (Home Defence Type)

(others see above)

Note: If Flying in a Bosta with Gothas, night missions start in early August 1917 as they did historically - up until then the missions are day sorties.

Flying at night by moon, in a Gotha over the English Channel, or hunting Zeppelins in your aging BE2c fitted with over wing Lewis are whole new experiences to enjoy !

Note: the Expansion is specifically for WOFF, and not for older products (i.e. not for "OFF")

These are additional new features to the very comprehensive feature list already in WOFF v1.

: WINGS: OVER FLANDERS FIELDS EXPANSION 3 ("WOFF 3")

- Improved Scenery, for example newly designed airfield layouts of trees for a more realistic look.

New Aircraft:

- : **Fokker D.III twin gun**, which featured the Oberursel U.III 14-cylinder, two-row rotary engine as seen in the Eindecker E.IV.
- : **deHavilland D.H.4 2 seater. Work horse and superb aircraft, used by many squadrons.**
- : **Sopwith Camel 150HP Bentley engine version. More powerful performance helped the Camel compete with the new Fokker DVII aircraft.**

New Aircraft damage:

- **Visible cockpit damage and bullet hits when pilot area is hit.** Oil on windscreen from engine and oil tank damage. Cracked glass effects on windscreens and instrument dials where applicable. This new damage system has been implemented across all 76+ aircraft!
- External oil leaks on some aircraft
- New bullet hit textures that now show on high resolution aircraft textures ! Both are now indepenently selectable in workshops.
- **Slumped dead Pilots models and dead Observers**, added to all aircraft in external views .
- New Cockpit damage sounds, for example wind whistling through holes you may acquire in various places ;)
-

NEW Direct X Shader lighting effects, by AnKor

- New world cube map reflections - blue sky and ground and grass will now reflect and tone the aircraft to add realism, shiny cowls will reflect more realistically and so on. Also user configurable in the workshops in WOFF 3!



- New correct working 3D Aldis sights on applicable craft
- Sea reflection improved.
- Lights (Vehicle Headlamps and Tailamps, Search Lights, Airfield Lights, and Drum Lights) now switch on and off at sunset and sunrise dynamically whilst in runtime as 'time of day' dictates. So after you take off you may see fields lit with burning oil drums and lights. factories may have searchlights and more. (example in this image by WOFF 3 user Bucksnot):



- Real runtime 'time of day' lighting on effects - smoke and dust is now dark at night for example.
- More lights added to the simulator engine, so more can be seen than ever before.
- Increased placement and use of 'night lights' throughout theatre.

New Campaign features and improvements:

- Built-in feature to use only Top Aces (approx 50) in campaign to allow more AI squad pilots in each squad. This allows you to see them flourish or perish - more immersion.
- When creating a new pilot the player can opt to be a "novice" or "veteran" so when using auto pilot the AI will fly accordingly.
- Recce flights will now be normally a complement of two or 3 pilots.
- General Adjustments to 2 seater flight complements to more accurately reflect numbers actually used.
- New AI options in Workshop.
- Player squadron complement changes over time now as it did historically.
- Increased flight complements for 1917 and 1918.
- New campaign immersion feature: On manual time advance selection, going on leave, and returning from captivity or hospitalisation - the days are processed with simulated activity (based on squadron ratings etc) to affect AI pilots in terms of death, wounded, mission counts and flying hours.
- Implemented the option of Incendiary Rounds or Normal Rounds in Campaign Loadout Configuration screen - this affects all craft in game!
- Player can now manipulate the time of the mission in the main campaign screen to a certain degree.
- QC mission : Player Landing option is now selectable in Combat Flight mode.
- **Many detailed historically researched US 2 seater squadrons** - for the first time in WOFF fly 2 seater US campaigns! (and drop the new 230LB bombs!).
- French Squads increased from 80 to 123 historically accurate squads.
- New British squadrons added.
- AI Pilots number of missions flown and flying hours when starting out are now a function of the squadron rating - better squads start out with more seasoned pilots.

- AI Pilots number of missions flown and flying hours when replacing killed pilots or pilots transferring in, during squadron operations, are now a function of the squadron rating - better squads receive more seasoned pilots.
- Player 'Never Dies tick boxes' in QC, Scenarios and Campaign now synced to workshops setting 'easy never dies.'
- Mission type and target is retained if player goes back to main campaign room from briefing room without flying the mission. Note: does not apply to dual role squads or heavy bomber squads.
- Theatre now populated with more French aerodromes in 1916, 1917 and 1918.
- Improvements to the skin allocations system - QC1 aircraft now used with its default skin for overused squadron assigned craft types.
- Gotha skins added in and the camo types now used in 1918.

AND MUCH MORE...

- **New MUSIC by Matt Milne**, creator of the wonderful music for previous releases!
- **Over 60 DH4 squadron and Historical aircraft 'skins'**
- **430 (yes 430) remastered Albatros D.III and D.III early 'skins'!**
- **7 new textures for Sopwith Camel (Bentley)**
- **AI pilots should now shoot more often.**
- New labels that allow more information, for example skill, morale, pilot damage etc.
- New options in Campaign to choose alternative weather or alternative aircraft textures.