



Emphasizing Player Skill and Strategic Choices in CS:GO Level Design

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GAME DEVELOPERS CONFERENCE®

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Intro: Who are We?

Community Level Designers

Combined Five Levels Included in Valve
Software's *Counter-Strike: Global Offensive*





Intro: Who are We?

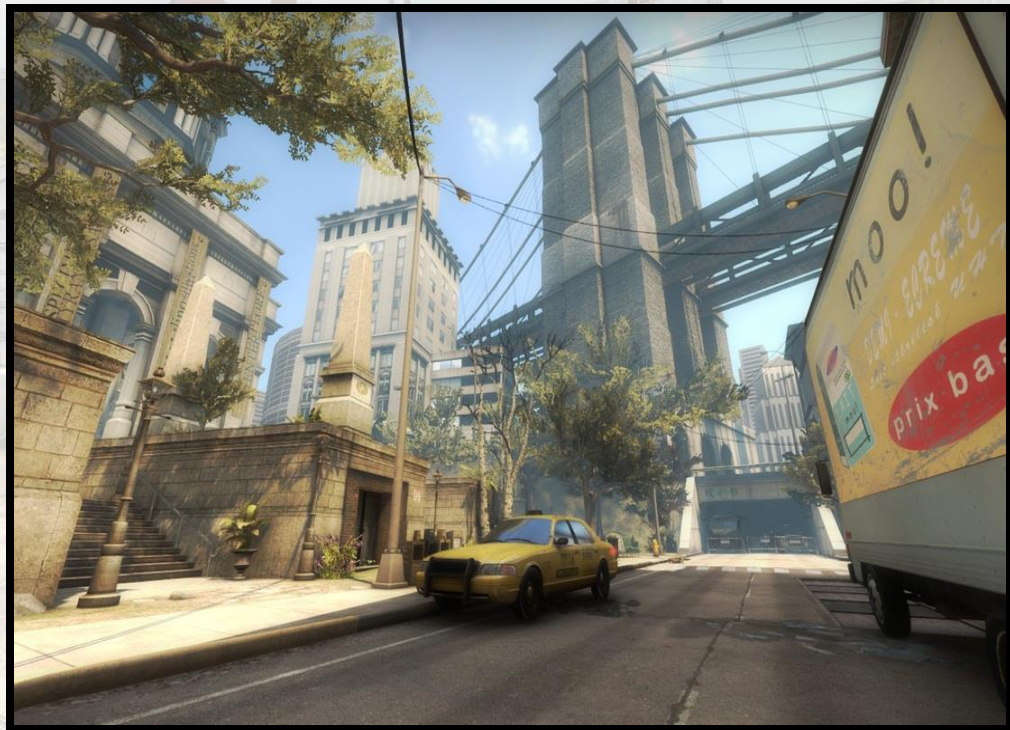
Sal “Volcano” Garozzo:
Over a decade of
experience in eSports as
a pro-gamer and
community level
designer for Counter-
Strike.





Intro: Who are We?

Shawn “FMPONE”
Snelling:
Over a decade of
making levels for
games.





Part One: Levels Built to Last

Letting player skill shine via strategic depth



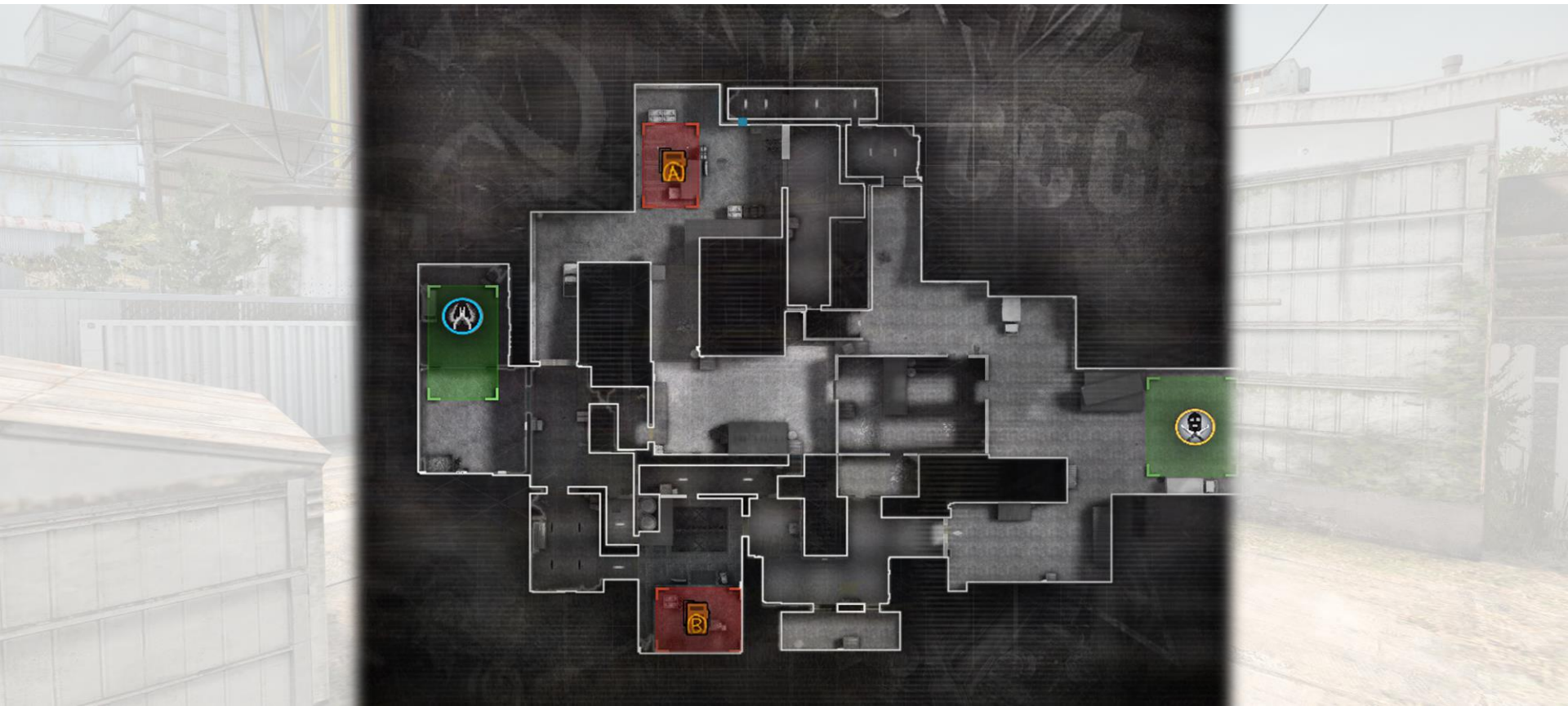


Overview of Counter-Strike

- First person shooter
- Round based game with two halves
- 1 minute 45 seconds per round
- Counter-Terrorists (CT) play as defense
- Terrorists (T) play as offense
- Distinct strategy for both teams each round
- **Most popular PC based FPS in eSports**

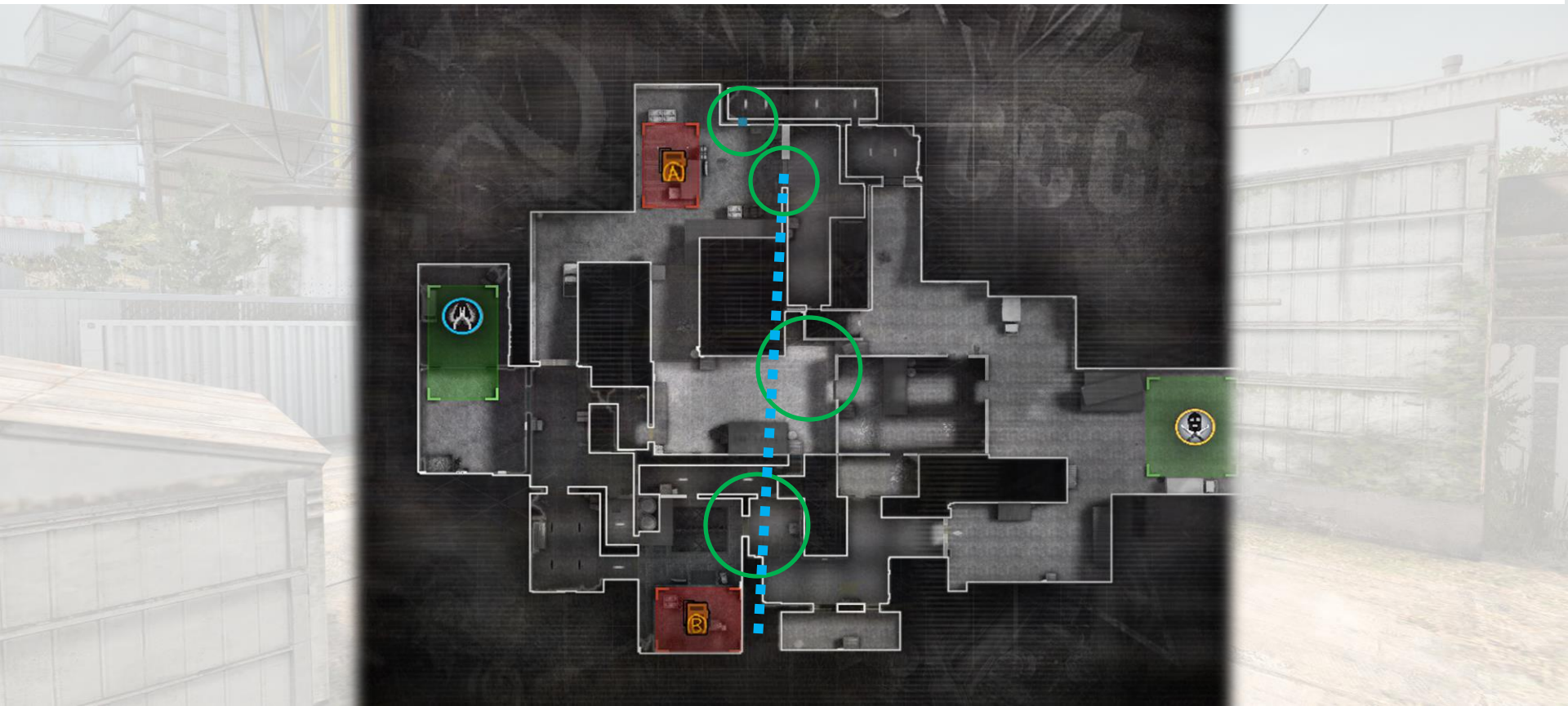


DE_CACHE / Default Strategy





Central Dividing Line of Battle, 4 Chokepoints



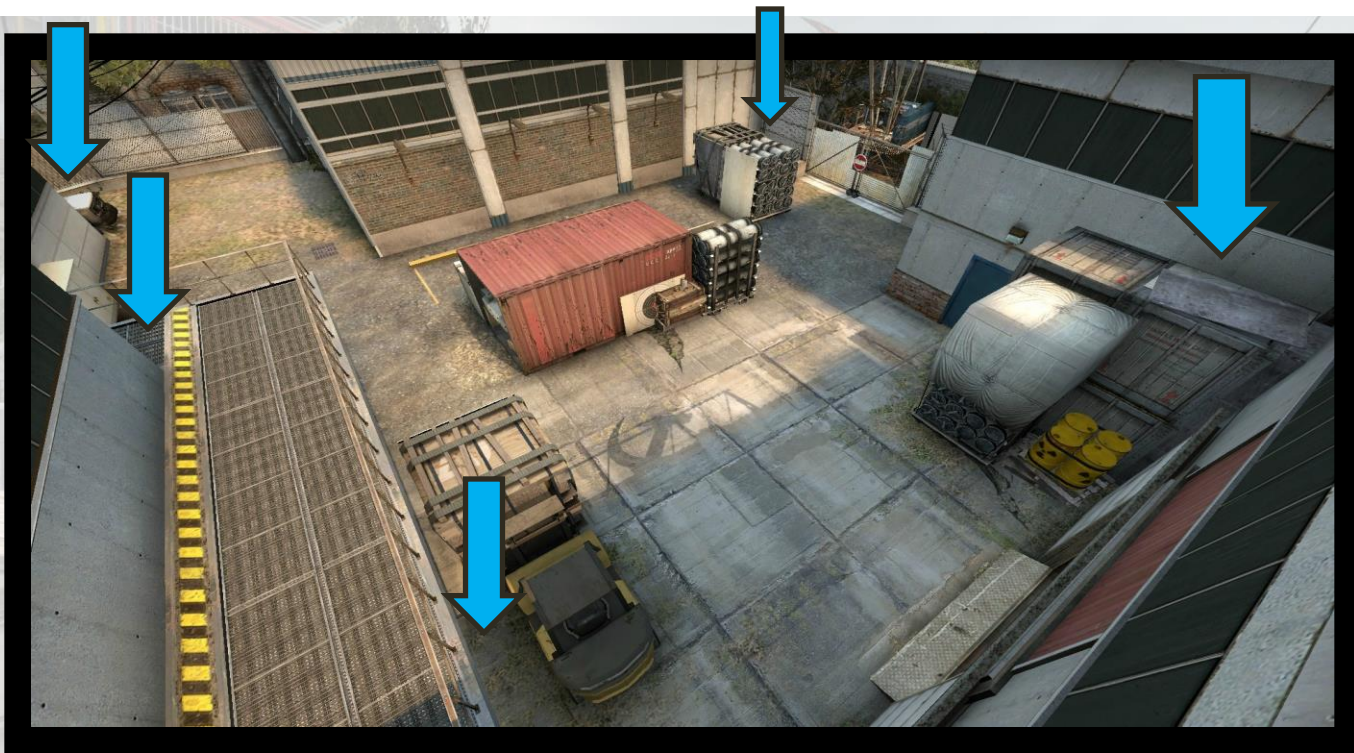


Counter-Strike is Punishing

- Caught looking the wrong way?
- Too many areas of danger at once is bad
- Divide and conquer



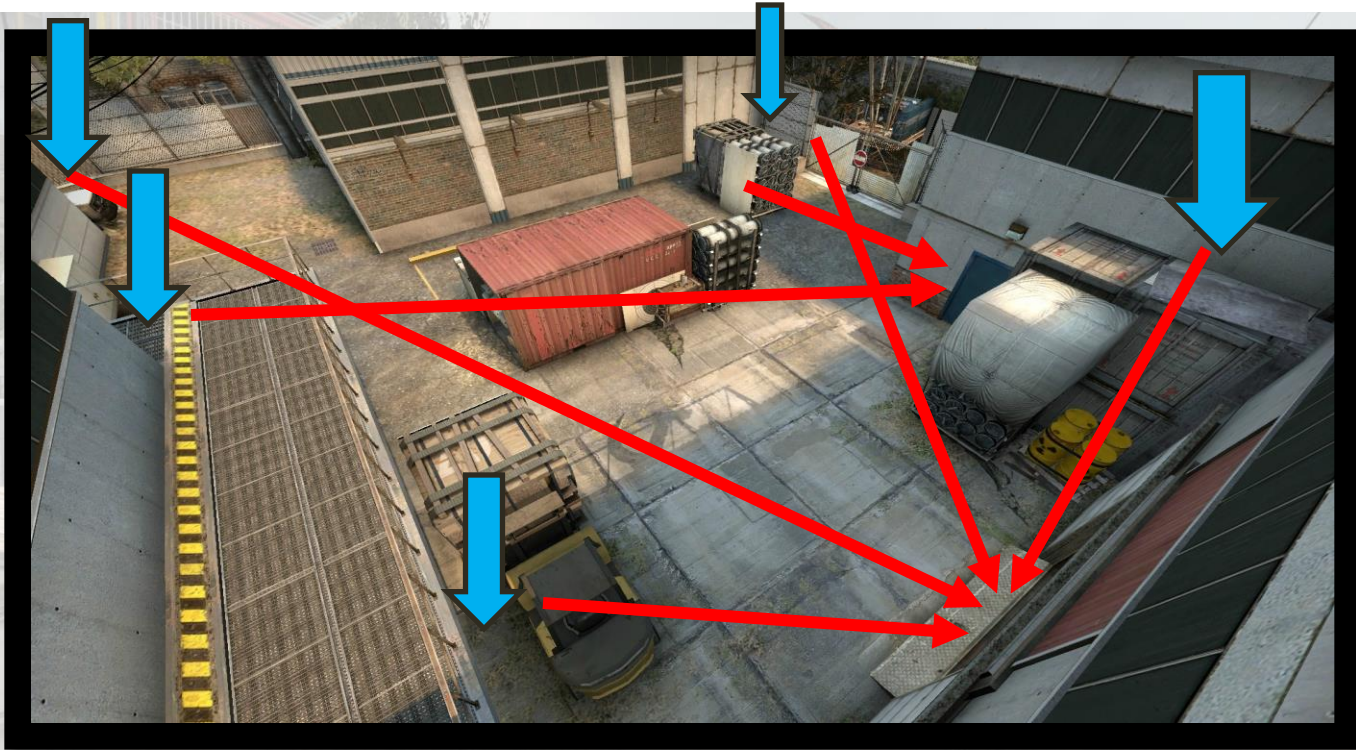
DE_CACHE / Bombsite A



Common CT defense points = Blue



DE_CACHE / Bombsite A



Common CT sight lines = Red



Verticality in Counter-Strike

- Should be used sparingly compared to other shooter games
- Players use extremely low mouse sensitivities
- CS allows verticality to be used in interesting ways



Stacking & Boosting

- Stacking on teammates to gain higher perspective
- Boosting gives access to elevated positions
- Encourages planning and teamwork



Stacking and Boosting



A “tower” in Counter-Strike 1.5



DE_CACHE – Shroud's Clutch Play



Shroud's Spot



Trick Jumps

- Manipulate mid-air movements to gain extra distance
- Allows players to showcase mechanical skill
- Should not be too powerful or exclusive
- Most effective in moderation



One Cache Jump



Difficult, time consuming and dangerous – but powerful



Wallbanging (Shooting through walls)

- Caliber of weapon, surface material and thickness determine bullet penetration
- Allows players to demonstrate wit and map knowledge
- Effective counter to a powerful defensive position
- Most effective in moderation



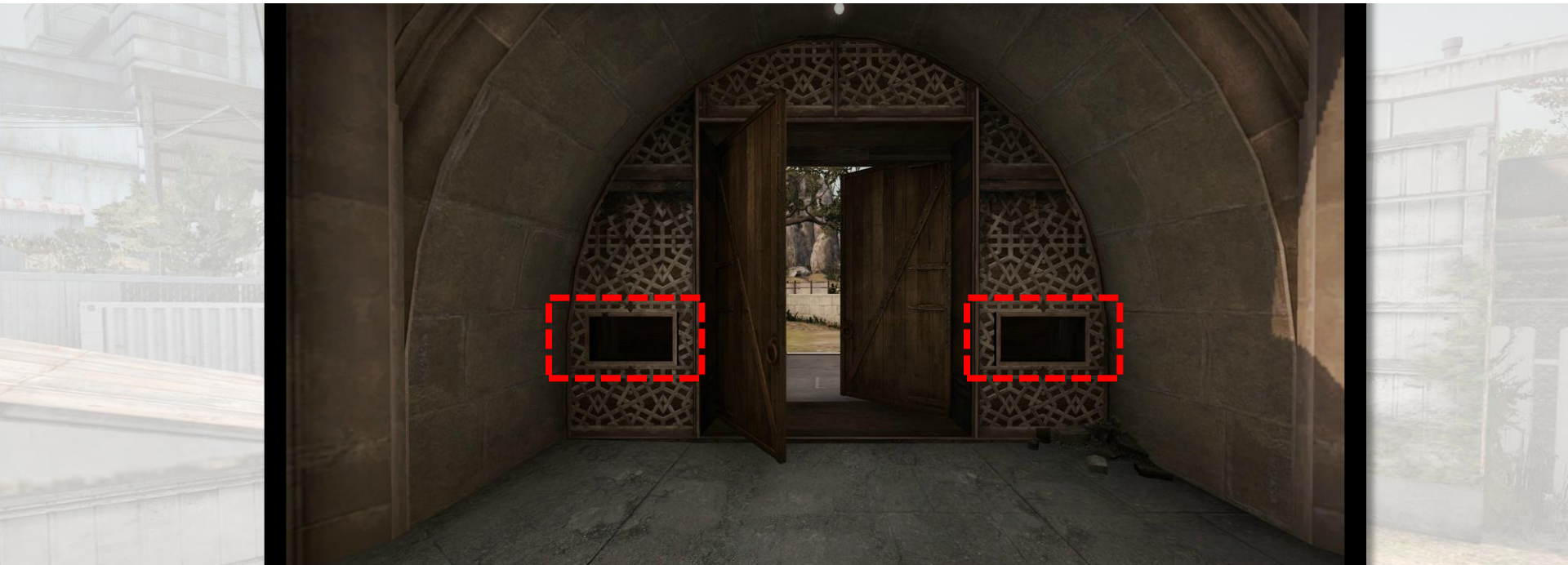
Crown Wallbang Spots



Prevents “camping” on either side of doorway



Crown Wallbang Spots



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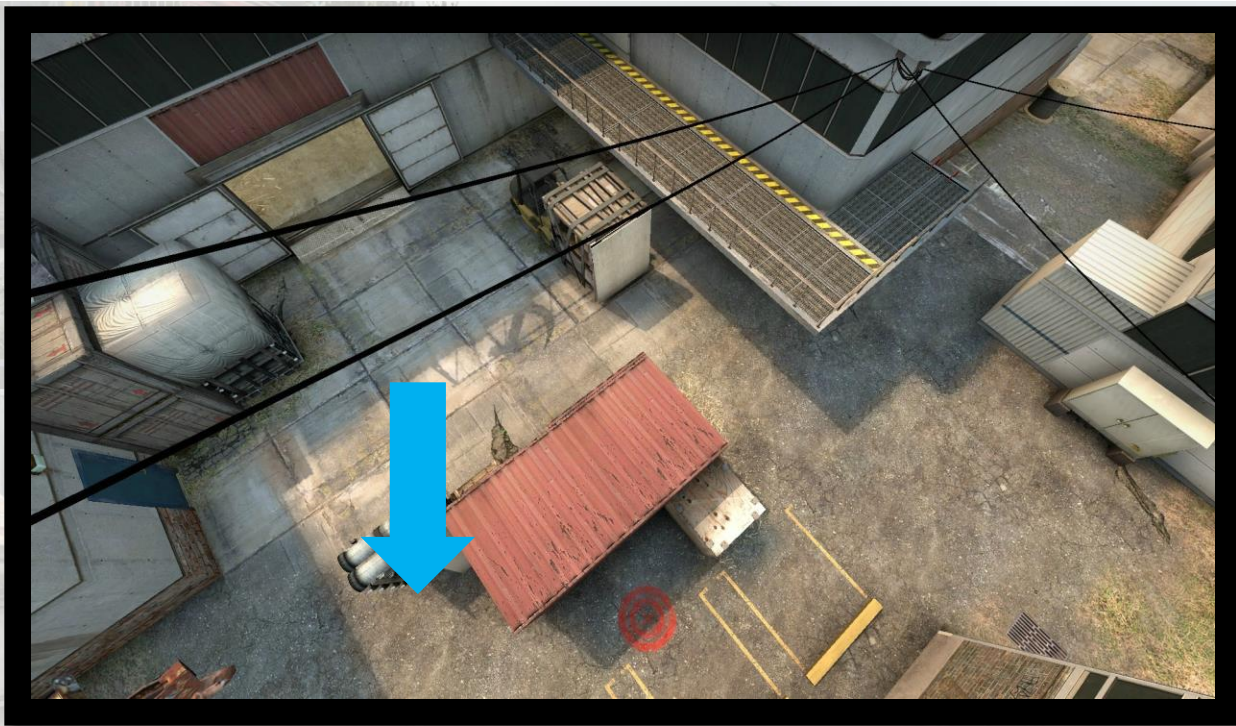


Bomb Planting Zone

- The most important objective in CS
- Extra thought here can go a long way
- Exposed (risky) bomb plants are easier to defend
- Allows for interesting tactics



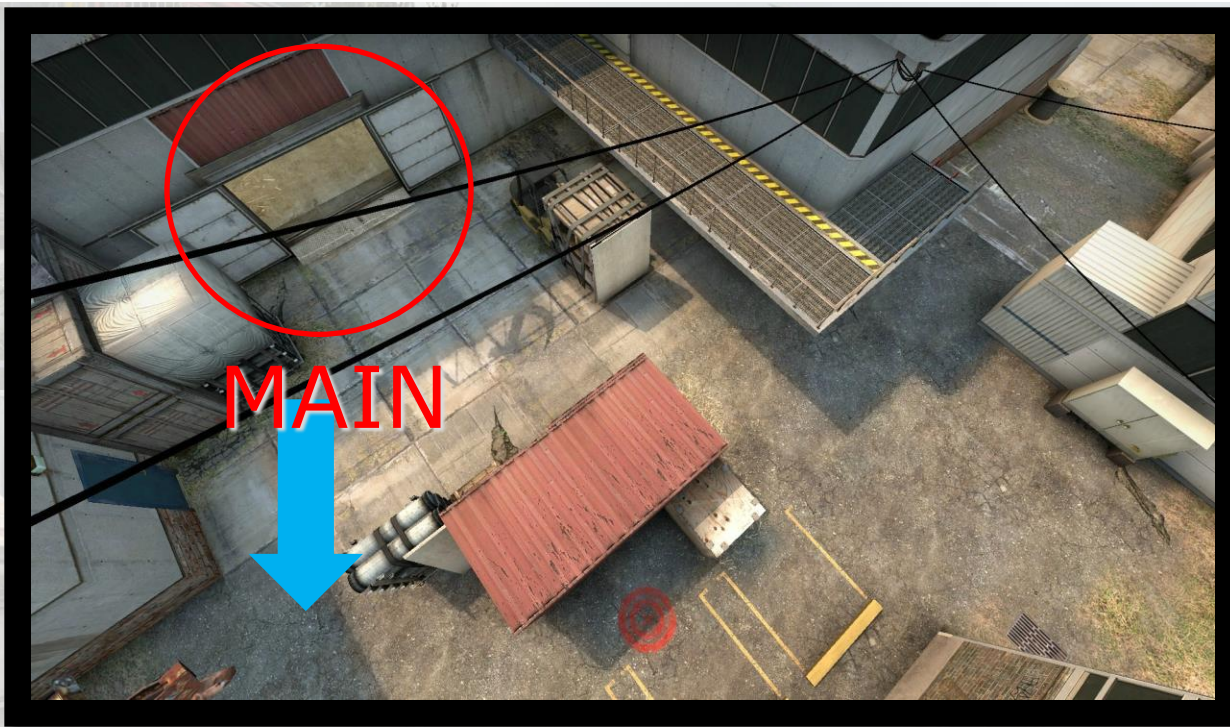
DE_CACHE/Bombsite A



“Default” Bomb Plant: Safe Plant Spot



DE_CACHE/Bombsite A



Planting for Main



DE_CACHE/Bombsite A



Planting for Middle



Part Two: Form Meets Function

The Nexus of AAA Aesthetics, and Player
Design Demands



Every Level Design Decision Matters to the Pros

- In Counter-Strike, rewarding player skill needs to be a top priority
- Every aesthetic decision in some way becomes a gameplay design decision
- In CS:GO, the line between art direction and level design becomes heavily blurred



The Compromise Process



Pictured: Old Cache WIP



The Compromise Process



Pictured: Final Cache Graphics

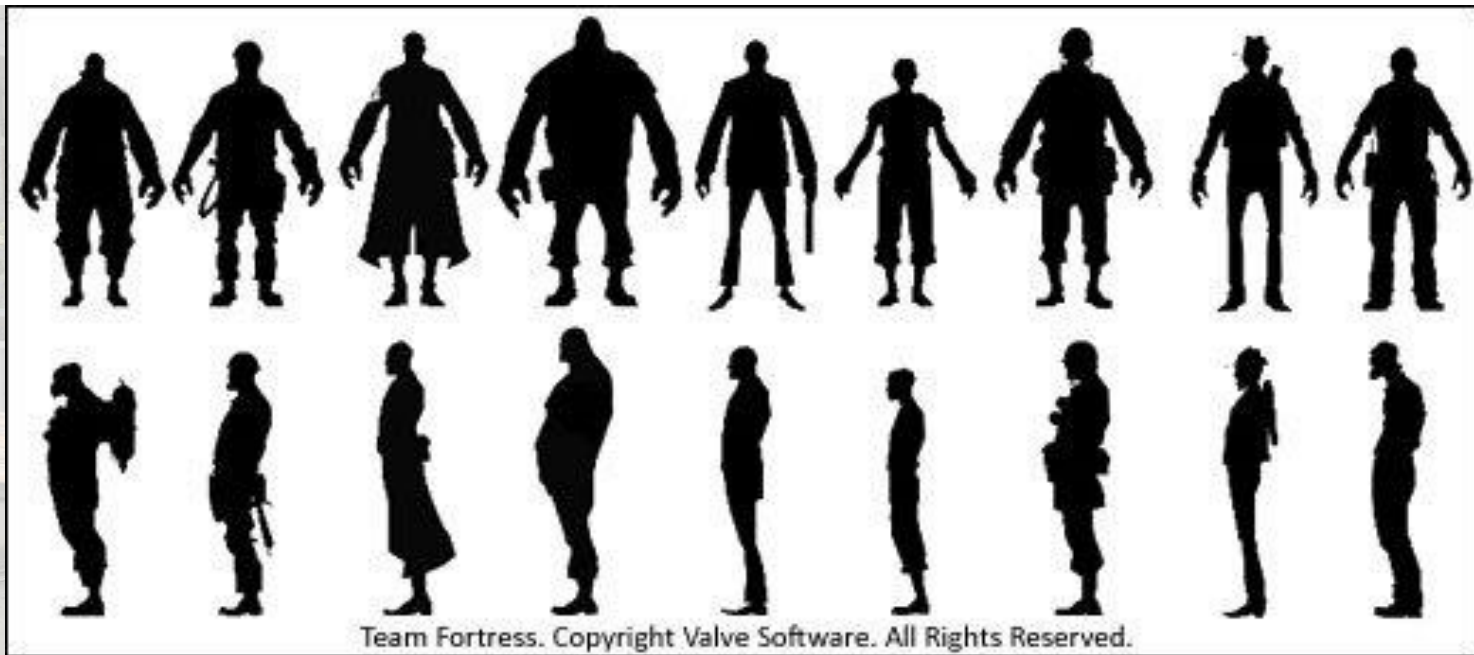


Readability: Quick Recap

Readability: the ability to easily distinguish players against the background (in this case, the environment of a map).



Readability: Quick Recap



Pictured: diagram of TF2 character silhouettes



The Hidden Perks of Creating Readable Environments

- Improving the player experience is a holistic endeavor
- Readable levels enhance player experiences by reducing cognitive dissonance
- Instead of fighting other players AND the level, a well designed level can fade into the background, allowing player interactions to come to the forefront. Players prefer this.



The Top Dog



Pictured: DE_DUST2



De_Dust2 Facts

- Easily the most played map in Counter-Strike history
- An excellent map: memorable theme, clean and highly read-able presentation, flawless layout
- THE Counter-Strike map.



One Key to Dust2's Enduring Success



Pictured: De_Dust2's middle



One Key to Dust2's Enduring Success





One Key to Dust2's Enduring Success

Wisdom in Minimalism:

1. Extremely simple, digestible geometry.
2. Desaturated textures, trending towards white
3. Contrast heightened towards path exits, minimal elsewhere



Makes it extremely challenging for other levels to compete.



Classic: Dust2 elegantly merges Form with Function

- Accepts the premise that players crave interaction with other players as their paramount concern
- Merges player demands for readability and fantasy by creating an effective and believable environment
- **Improving readability -> reducing cognitive dissonance -> creating positive association -> demonstrating high value to players -> improving player retention -> making your level more popular than the rest**



Is there any room to compete with Dust2?

- Difficult – must merge form with function as effectively as Dust2 does.
- Must somehow create even higher levels of player valuation.
- ...How?
- **By focusing on the room for improvement.**



Minimalism can be weakness





Minimalism can be strength





The holy grail for CS:GO level designers

An aesthetic blend of Form with Function – purity of experience (readability) with clear artistic vision.

Problem: Totally readable or desaturated environments feel somewhat “false” or artificial.

Solution: Merge Form with Function



Pictured: De_Season



Aesthetic Minimalism Embodies the Goal





Other Advantages of Effective Aesthetic Design

Details are free to be details, but also free to be
more than just details.



Skyboxes are not just decoration – they're design





Effective Skyboxes Evoke Design Truths

- Out of the way
- Magnified by readability within the level
- Aid level fiction
- Enhance gameplay features (grenades)
- CS: GO presents entirely new opportunities for excellent skybox design



DE_CACHE





DE_SEASON





DE_OVERPASS





When form meets function



Players see VALUE



Contact Us

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