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Competitivity Scoring, Random Maps								
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#### 1. Definitions

- Strategic Reliance The unit forms an important component of an army. It is able to resist damage from opponents, either through its own merits, has the speed to run away from counters, or tends to have a proximity to friendly protective units/buildings. Players formulate and practice build-orders around units of "strategic reliance". NOT A QUESTION OF IF THIS UNIT WILL BE BUILT.
- Effective Capable of one or both: 1) able to damage or remove enemy controlled assets, including units, production facilities, economic drop points, defensive buildings, etc. or 2) able to monitor and deny enemy resource collection. May not necessarily be able to perform these activities directly, but can force an investment in counter-play to prevent an enemy from doing damage. This could mean triggering the opponent to create counter units, construct defensive buildings, "quick-wall", garrison react, or economically relocate.
- Ceteris Paribus The other things held equal between players: 1) Internet connectivity/lag, 2) Approximate skill of opponents who make the same number of mistakes, at similar points in time throughout the game, 3) Availability of competent civilizations through draft or random selection.
- **Investment** Time and resources spent doing something.
- Counter-Play Creation of counter-units, defensive buildings, "quickwalls", and garrison reactions or economic relocation to mitigate or prevent the damage done by offensive units.
- Ending Age The age that at least one of the players will have advanced to by the time the game ends. For example, in a 1v1, if a player in the feudal age defeats a player in the castle age, then the castle age is said to have been the ending age for that game, even if feudal age units ended the game.

## 2. Objective

A competitivity scoring method has been developed as a means of objective custom map evaluation in Age of Empires II: Definitive Edition. The competitivity of a map depends on two factors: 1) the strategic variety available on the map in each age, and 2) the amount of time spent in each age to exercise those strategic options.

## 3. Option Availability

Table 3 shows a list of all units/buildings with an attack value (discounting navy), available in each age:

~		Break	down of Game Ending Ages	S
	Dark	Feudal	Castle	Imperial
Option List				
	Militia	Man at Arms	Longswordsman	THS/Champion
	Villager	Spearman	Pikeman	Halberdier
	Town Center	Eagle Scout	Eagle Warrior	Elite Eagle Warrior
		Archer	Crossbowman	Arbalest
		Skirmisher	Elite Skirmisher	Elite Skirmisher
		Scout	Cav/Elephant Archer	Heavy Cav/Elephant Archer
		Villager	Light Cavalry	Hand Cannoneer
		Town Center	Knight	Hussar
		Tower	Camelry	Cavalier/Paladin
			Battle Elephant	Heavy Camel
			Steppe Lancer	Elite Battle Elephant
			Ram/Armored Elephant	Elite Steppe Lancer
			Mangonel	Ram/Siege Elephant
			Scorpion	Onager/Siege Onager
			Siege Tower	Heavy Scorpion
			Monk	Siege Tower
			Unique Unit	Bombard Cannon
			Tower	Monk
			Castle	Elite Unique Unit
			Petard	Tower
				Castle
				Petard
				Trebuchet
Option Count	3	9	20	23
Option Percent	5.45	16.36	36.36	41.82

Table 3: Summary of Units with Reasonable Attack Value Through Four Ages (June 2023)

With exception of villagers and town centers beyond feudal age, each land unit that can deal damage or remove an enemy unit/building from play is listed in the table above. The assumption is that a more competitive map will be less predictable, with many strategic options that are neither too weak, nor too strong. Therefore, if players are using the above listed units/buildings to win games in equal representation, then the distribution of ending ages for "competitive" maps should be similar to the "Option Percent" distribution of Table 1. According to "jerbot", author of aoestats.io, this is indeed the case, with the actual breakdown for Arabia (the "gold-standard" of competitivity) shown in Figure 3:

jerbot Dark age: 2.8% Feudal age: 10.8% Castle age: 37.2% Imperial age: 49.2%

Figure 3: Actual Breakdown of Ending Ages for Arabia

These numbers were calculated June 20<sup>th</sup>, 2023 with a sample size of 274,361 1v1 Arabia games, across all skill levels. With its early-age bias, this simple method likely underestimates the value of siege weapons, but overall supports the following conclusion: the ability for players to end games is proportional to the options they have available.

### 4. Option Scoring

However, it is not simply enough to be theoretically capable of making a unit or building – the quality of these options must be evaluated to score the competitivity of a map. Table 4 shows the ranking system:

Key Word	Score	Description
Impossible	0	The random map is designed with terrains/blocking objects, etc. that make the creation of this unit physically impossible for players even if they wanted to.
Implausible	1	The random map is designed such that strategic reliance on this unit is counterproductive, and there is no conceivable situation in which the unit may be used effectively and attempting to do so would give an advantage to the opponent.
Impractical	2	Strategic reliance on this unit would be effective for less than 15% of map generations, ceteris paribus, assuming equal investment in counter-play from the opponent.
Uncommon	3	Strategic reliance on this unit would be effective in 15% to 35% of map generations, ceteris paribus, assuming equal investment in counter-play from the opponent.
Common	4	Strategic reliance on this unit would be effective in 36% to 64% of map generations, ceteris paribus, assuming equal investment in counter-play from the opponent.
Prevalent	1	Strategic reliance on this unit would be effective in 65% to 85% of map generations, ceteris paribus, assuming equal investment in counter-play from the opponent.
Dominant	-2	Strategic reliance on this unit would be effective for more than 85% of map generations, ceteris paribus, assuming equal investment in counter-play from the opponent.

Table 4: Ranking System for Strategic Options

Strategies such as "fast-castle" or "booming", which do not make use of a specific unit/building, are not regarded as direct contributors to competitivity. Instead, their influence manifests in the ability of other units to contest such strategies. For example, on a map lacking feudal aggression, where "fast-castle" is the ideal strategy most of the time, strategic reliance on a typical feudal age unit may be downgraded from "Common", giving +4, to "Impractical", giving only +2. As another example, a certain unique unit that would be considered "Dominant" (-2) may only be "Prevalent" (1) if it is slow and the opponent can boom elsewhere on the map. It is assumed that players will select an appropriate timing and economic backing for their desired army volume and composition.

## 5. Sample Worksheet

Production Building	Unit Line/Building	Age								
J		Dark	D#	Feudal	F#	Castle	C#	Imperial	I#	
Town Center										
	Villager	Implausible	1	Impossible	0	Impossible	0	Impossible	0	
Dock									$\perp$	
	Galley	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
	Fireship	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
	Demolition Ship	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
	Cannon Galleon/Dromon	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
	Transport Ship	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
Barracks										
	Swordsman	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
	Spearman	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
	Eagle Warrior	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
Archery Range										
	Archer	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
	Skirmisher	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
	Cavalry/Elephant Archer	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
	Hand Cannoneer	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
Stable									$\top$	
	Scout	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
	Knight	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
	Camel	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
	Battle Elephant	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
	Steppe Lancer	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
Monastery					$\top$				$\top$	
·	Monk/Warrior Priest	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
Siege Workshop									$\top$	
	Battering Ram/Siege Elephant	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
	Mangonel	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
	Scorpion	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
	Bombard Cannon	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
	Siege Tower	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
Castle									$\top$	
	Unique Unit (UU)	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
	Non-Castle UU	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
	Trebuchet	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
	Offensive Building								$\top$	
									$\top$	
Town Center	Town-Center Drop	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
Tower	Tower/Donjon Rush	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
Castle	Castle Drop	Impossible	0	Impossible	0	Impossible	0	Impossible	$\frac{1}{0}$	
F. Church	Fortified Church Push	Impossible	0	Impossible	0	Impossible	0	Impossible	$\frac{1}{0}$	
	- Charlett 1 doll	JOSS AGRE				omp coolere		ATT ACCOUNTS		
	~	Dark	Feudal		Castle		Imperia	1		
Fetim	ated Ending Age "Odds"	1		1 000001		1		111111111111111111111111111111111111111		

<u>Table 5: Individual Unit Scorings by Age</u>

The interactive portions of the worksheet are highlighted in yellow. Each unit/building, is denoted by an individual row, with a column for each age. The term that best describes the viability may be selected as a drop-down menu item. The options for that menu are listed and described in Table 2. After the individual unit evaluations have been completed, an estimate of ending age-breakdown must be provided, similar to the final row of Table 1.

Note that final row "Estimated Ending Age 'Odds" need not be percentages that add to 100, since the worksheet will auto-correct to the proper sum, but if they are, then the calculations will be more intuitive.

#### 6. Calculation

Competitivity is calculated from the worksheet in three steps:

#### 6.A. Ideal Ending Age Distribution

Calculated by adding all possible strategies (anything not "Impossible") per age and dividing by the all-ages total, in the same manner presented in Table 3. This method can account for the possibility of naval activity on dockable maps, blocking objects that prevent specific building construction, and rarely, rule changes that outright remove the creation of certain units.

#### 6.B. Age Discrepant Penalty (ADP)

The formula for the age-discrepant penalty is as follows:

$$ADP = 1 - \frac{|A - B|}{A + B}$$

Where A and B are the percentages under comparison, and the vertical lines are "absolute value", to ensure ADP never exceeds 1. For example, if an even distribution of options are available to players across all four ages for a certain map, but the games are all predicted to end in imperial age, then Table 6.B summarizes penalties:

~	Dark Age	Feudal Age	Castle Age	Imperial Age
Units from Tech Tree Available	25%	25%	25%	25%
Predicted Ending Age	0%	0%	0%	100%
Age Discrepant Penalty (ADP)	0	0	0	0.4

<u>Table 6.B: Sample ADP Calculation</u>

For this example, in Dark, Feudal, and Castle Ages, the ADP value is zero because none of the available options in those ages (of which they constitute a total of 75% of the total options) are expected to be capable of ending the game. The ADP value for imperial age is poor, but non-zero.

In the case where A = B, |A-B| = 0 and ADP = 1, therefore no penalty is applied.

#### 6.C. Strategic Variety Scores (SVS)

The values of each unit for a given age are added together to produce the Strategic Variety Score (SVS) in that age. For example, if man-at-arms are common, and scouts are implausible, with all other units impossible, then the SVS for feudal age is +4 (MAA) +1 (scouts) +0 (everything else) = +5.

The SVS is then multiplied by the Age-Discrepant Penalty (ADP) to account for non-ideal timings spent in each age. The four adjusted scores (one per age) are totaled to produce the final competitivity.

## 7. Sample Evaluations

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The following sections contain samples for some well-known maps, which could vary according to perspective, but at least give an idea for how to complete the Competitivity evaluation.

# 7.A. Arabia 1v1 (June 2023)

Production		Age								
Building	Unit Line/Building	Dark	D#	Feudal	F#	Castle	C#	Imperial	I#	
Town Center	Villager	Uncommon	3	Impractical	2	Implausible	1	Implausible	1	
Dock	C-II	i- -				1		I		
	Galley	Impossible	0	Impossible	0	Impossible	0	Impossible	0	
	Fireship	Impossible	0	Impossible	0	Impossible	0	Impossible	<u> </u>	
	Demolition Ship Cannon Galleon/Dromon	Impossible	0	Impossible	0	Impossible	0	Impossible Impossible	0	
	Transport Ship	Impossible Impossible	0	Impossible Impossible	0	Impossible Impossible	0	Impossible	0	
	Transport Ship	IIIIpossible		Impossible		Impossible		Impossible		
Barracks										
	Swordsman	Uncommon	3	Common	4	Uncommon	3	Uncommon	3	
	Spearman	Impossible	0	Impractical	2	Impractical	2	Impractical	2	
	Eagle Warrior	Impossible	0	Impractical	2	Uncommon	3	Common	4	
Archery Range		<del>                                     </del>		++		+		++		
richery range	Archer	Impossible	0	Common	4	Common	4	Common	4	
	Skirmisher	Impossible	0	Impractical	2	Impractical	2	Impractical	2	
	Cavalry/Elephant Archer	Impossible	0	Impossible	0	Uncommon	3	Uncommon	3	
	Hand Cannoneer	Impossible	0	Impossible	0	Impossible	0	Impractical	2	
Ct-bl-										
Stable	Coout	Impossible	0	Commen		Unconsense	2	Commen	4	
	Scout	Impossible	0	Common	<u>4</u> 0	Uncommon	<u>3</u>	Common	4	
	Knight Camel	Impossible Impossible	0	Impossible Impossible	0	Common Uncommon	3	Common Uncommon	3	
	Battle Elephant	Impossible	0	Impossible	0	Impractical	2	Impractical	2	
	Steppe Lancer	Impossible	0	Impossible	0	Uncommon	3	Uncommon	3	
	оторро салоол	IIIpodolisio		Просолью		Gricommon		Silveninen		
Monastery										
	Monk	Impossible	0	Impossible	0	Impractical	2	Impractical	2	
C: W I I		ļ		++		+		++		
Siege Worksh		i- -	0	Immoration		11	2	C	4	
	Battering Ram/Siege Elephar		0	Impractical	2	Uncommon	3	Common		
	Mangonel	Impossible	0	Impossible	0	Uncommon	3	Uncommon	<u>3</u> 3	
	Scorpion  Bombard Cannon	Impossible	0	Impossible	0	Uncommon	<u>3</u> 0	Uncommon Common	4	
	Siege Tower	Impossible Impossible	0	Impossible Impossible	0	Impossible Impractical	2	Impractical	2	
				possisie		predotroea		presources		
Castle										
	Unique Unit (UU)	Impossible	0	Impossible	0	Impractical	2	Uncommon	3	
	Non-Castle UU	Impossible	0	Impossible	0	Impractical	2	Uncommon	3	
	Trebuchet	Impossible	0	Impossible	0	Impossible	0	Implausible	1	
Of	fensive Building							++		
UI										
Town Center	Town-Center Drop	Uncommon	3	Impractical	2	Implausible	1	Implausible	1	
Tower	Tower/Donjon Rush	Impossible	0	Uncommon	3	Impractical	2	Implausible	1	
Castle	Castle Drop	Impossible	0	Impossible	0	Implausible	1	Impractical	2	
	~	Darl	k	F	dal		tlo	Impe	rial	
Estimat	ed Ending Age "Odds"	Dan 5	Λ	-	Feudal 25		Castle 30			
Louina	ed Ending Age Odds	Ĭ		T T	<u> </u>	T T	,	40		
		REFE	RENCE ON	ILY DO NOT M	ODIFY THI					
						Age			.,	
F-1:	Fading Ass. B.	Dar	K	Feu	dal	Cas	tle	Impe	rial	
Estimated	Ending Age – Percentage Correction	5.00	0	25.0	00	30.0	00	40.0	00	
Poss	ible Options by Age									
. 555	Count	3		10	)	22		25		
	Percentage		0	16.0		36.0		41.6		
	age Ending Percentage	10.0		41.0		66.6		81.6		
Positive Diffe	erence – Estimated vs Ideal	0.00		8.3		6.6		1.6		
	R Factor	1.00	J	0.8	SU .	0.9	U	0.9	ð	
	Total Compatitivity by Asset	9.00	n	27 (	20	54.0	20	66.0	10	
	Total Competitivity by Age: Age-Factored Competitivity:	9.00		27.0		48.6		64.6		
	rige i actoreu competitivity.	9.00		21.	30	40.0	,,,	04.0	,,,	
	Final Competitivity:	للسيني			1	.43.85				
	Johnson Vily.									

Table 7.A Sample Competitivity Analysis of Arabia 1v1 (June 2023)

## 7.B. Arena 1v1 (June 2023)

Production						Age			
Building	Unit Line/Building	Dark	D#	Feudal	F#	Castle	C#	Imperial	I#
Town Center	Villager	Implausible	1	Impractical	2	Implausible	1	Implausible	1
Dock									
	Galley	Impossible	0	Impossible	0	Impossible	0	Impossible	0
	Fireship	Impossible	0	Impossible	0	Impossible	0	Impossible	0
	Demolition Ship	Impossible	0	Impossible	0	Impossible	0	Impossible	0
	Cannon Galleon/Dromon	Impossible	0	Impossible	0	Impossible	0	Impossible	0
		Impossible	0	Impossible	0	Impossible	0	Impossible	0
Barracks									
	Swordsman	Implausible	1	Impractical	2	Common	4	Common	4
	Spearman	Impossible	0	Implausible	1	Common	4	Common	4
	Eagle Warrior	Impossible	0	Implausible	1	Uncommon	3	Uncommon	3
Archery Range									
	Archer	Impossible	0	Implausible	1	Uncommon	3	Uncommon	3
		Impossible	0	Implausible	1	Impractical	2	Impractical	2
		Impossible	0	Impossible	0	Impractical	2	Impractical	2
	Hand Cannoneer	Impossible	0	Impossible	0	Impossible	0	Uncommon	3
Stable									
		Impossible	0	Implausible	1	Common	4	Impractical	2
	Knight	Impossible	0	Impossible	0	Impractical	2	Uncommon	3
	Camel	Impossible	0	Impossible	0	Impractical	2	Impractical	2
	Battle Elephant	Impossible	0	Impossible	0	Uncommon	3	Uncommon	3
	Steppe Lancer	Impossible	0	Impossible	0	Impractical	2	Uncommon	3
Managara									
Monastery	Monk	Impossible	0	Impossible	0	Common	4	Common	4
6: 11/ 1									
Siege Worksh		I	0		2	C	4	C	
	Battering Ram/Siege Elephar		0	Impractical	0	Common	4	Common	4
	Mangonel Scorpion	Impossible Impossible	0	Impossible Impossible	0	Common	4	Common	4
	Bombard Cannon	Impossible	0	Impossible	0	Common Impossible	0	Common Common	4
	Siege Tower	Impossible	0	Impossible	0	Uncommon	3	Impractical	2
	Siege Fower	mpossible		Прозолью		CHECHINICH		mpractica	
Castle									
		Impossible	0	Impossible	0	Common	4	Common	4
	Non-Castle UU	Impossible	0	Impossible	0	Uncommon	3	Uncommon	3
	Trebuchet	Impossible	0	Impossible	0	Impossible	0	Uncommon	3
Ot	fensive Building								
Town Center	Town-Center Drop	Implausible	1	Implausible	1	Implausible	1	Implausible	1
Tower Castle	Tower/Donjon Rush	Impossible	0	Uncommon	3 0	Impractical	<u>2</u> 3	Implausible	1 2
Castle	Castle Drop	Impossible	U	Impossible	U	Uncommon	3	Impractical	2
	~	Da	ırk	Feudal		Castle		Imperial	
Estima	ted Ending Age "Odds"	(	)			4	5	50	J
		DEE	EDENCE ON	DO NOT	AODIEV TUI	S POY			
		KEFI	ERENCE ON	LY DO NOT N		SBUX Age			
		Da	ırk	Feu	ıdal		stle	Impe	erial
Estimated	Ending Age – Percentage Correction		00		00	45.		50.	
Poss	sible Options by Age								
	Count			1		2		25	
	Percentage	5.	00	16.	.6/	36.	6/	41.	67
2 * Aver	age Ending Percentage	5.	00	21.	.67	81.	67	91.	67
Positive Diff	erence – Estimated vs Ideal		00	11.		8.3		8.3	
	R Factor		00	0.		0.		0.9	
	Total Competitivity by Age:		00	15.		64.		71.	
	Age-Factored Competitivity:	0.	00	6.	92	57.	4/	64.	00
	Final Competitivity:				1	28.94			
		_							

Table 7.B Sample Competitivity Analysis of Arena 1v1 (June 2023)

# 7.C. Nomad 1v1 (June 2023)

Production					Δ	\ge			
Building	Unit Line/Building	Dark	D#	Feudal	F#	Castle	C#	Imperial	I#
Town Center		Durk		roudu		Gustio	O.I.	Imperitu	•
	Villager	Uncommon	3	Impractical	2	Implausible	1	Implausible	1
	Ĭ					T '		<u> </u>	
Dock									
	Galley	Impossible	0	Uncommon	3	Common	4	Common	4
	Fireship	Impossible	0	Common	4	Common	4	Uncommon	3
	Demolition Ship	Impossible	0	Uncommon	3	Impractical	2	Impractical	2
	Cannon Galleon/Dromon	Impossible	0	Impossible	0	Impossible	0	Uncommon	3
	Transport Ship	Impossible	0	Impossible	0	Impossible	0	Impossible	0
Barracks									
Darracks	Swordsman	Implausible	1	Uncommon	3	Uncommon	3	Common	4
	Spearman	Impossible	0	Implausible	1	Impractical	2	Uncommon	3
	Eagle Warrior	Impossible	0	Implausible	1	Uncommon	3	Uncommon	3
	Eagle Waller	Піросоівіс		mpiaasibio	_	CHECHINICH	-	CHECHINION	
Archery Range	•								
	Archer	Impossible	0	Impractical	2	Uncommon	3	Common	4
	Skirmisher	Impossible	0	Implausible	1	Impossible	0	Impossible	0
	Cavalry/Elephant Archer	Impossible	0	Impossible	0	Uncommon	3	Common	4
	Hand Čannoneer	Impossible	0	Impossible	0	Impossible	0	Uncommon	3
Stable									
	Scout	Impossible	0	Impractical	2	Uncommon	3	Common	4
	Knight	Impossible	0	Impossible	0	Common	4	Common	4
	Camel	Impossible	0	Impossible	0	Common	4	Common	4
	Battle Elephant	Impossible	0	Impossible	0	Uncommon	3	Uncommon	3
	Steppe Lancer	Impossible	0	Impossible	0	Uncommon	3	Uncommon	3
						<del>                                     </del>		ļ	
Monastery	Manufa	l	0	l	0	I	2	!	2
	Monk	Impossible	0	Impossible	0	Impractical	2	Impractical	2
Siege Worksh						+		<b>-</b>	
Siege Worksni	pp Battering Ram/Siege Elephar	Imposoible	0	Impractical	2	Improstical	2	Uncommon	3
	Mangonel	Impossible	0	Impractical Impossible	0	Impractical Impractical	2	Uncommon	3
	Scorpion	Impossible	0	Impossible	0	Impractical	2	Uncommon	3
	Bombard Cannon	Impossible	0	Impossible	0	Impossible	0	Uncommon	3
	Siege Tower	Impossible	0	Impossible	0	Impractical	2	Impractical	2
	Siege Tower	IIIIpossibic		IIIIpossibie	0	mpractical		Impractical	
Castle						<del>                                     </del>			
54.54.5	Unique Unit (UU)	Impossible	0	Impossible	0	Dominant	-2	Impractical	2
	Non-Castle UU	Impossible	0	Impossible	0	Impractical	2	Impractical	2
	Trebuchet	Impossible	0	Impossible	0	Impossible	0	Impractical	2
								<u> </u>	
Of	fensive Building								
Town Center	Town-Center Drop	Impractical	2	Impractical	2	Implausible	1	Implausible	1
Tower	Tower/Donjon Rush	Impossible	0	Uncommon	3	Implausible	1	Implausible	1
Castle	Castle Drop	Impossible	0	Impossible	0	Dominant	-2	Implausible	1
								<b>├</b>	
	~ !	Da		Feu		Cas	stle	Impe	erial
Estima	ted Ending Age "Odds"	(		(	)			1	
		DEC	EDENICE ONL	 Y DO NOT N	MODIEV THIS	BOY			
		REFI	LRENCE UNL	1 DO NOT N		lge			
		Dr	nrk	- For	<u>r</u> Jdal		stle	Impe	rial
Estimated	Ending Age – Percentage	Dark							
Latimateu	Correction	0.00		0.	00	50.	.00	50.	00
Poss	ible Options by Age								
	Count	:	3	1	3	2	4	28	3
	Percentage	4.		19.			.29	41.	
	age Ending Percentage	4.4	41	19.	12	85	.29	91.	18
	erence – Estimated vs Ideal	4.4		19.		14		8.8	
	R Factor		00		00		83	0.9	
	Total Competitivity by Age:	6.0	00	29.	00	52	.00	77.	00
	Age-Factored Competitivity:		00		00		.03	69.	
	Final Competitivity:				11	2.58			

Table 7.C Sample Competitivity Analysis of Nomad 1v1 (June 2023)

Competitivity Scoring, Random Maps	R1
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### 8. Conclusion

STND-003

This standard codifies the concepts of strategic diversity that are the basis of competitive Age of Empires II. Its scoring system rewards maps that exhibit a majority of the technology tree in game. Most importantly, this standard allows random map creators to predict how their work will be judged, and provides guidance for how to achieve maximum value from development efforts. For these reasons, STND-003 is a recommended component of *any* Age of Empires II event.

Revision	Description	Change Document	Date (YYYY-MM-DD)
X1	Advanced release for community review/feedback.	N/A	2024/06/08
Original Release		N/A	2024/06/15
R1	Revised italic footer Section 7.C, FROM " <u>Table 7.C Sample</u> <u>Competitivity Analysis of Arena Iv1 (June 2023)</u> " TO " <u>Table 7.C Sample Competitivity Analysis of Nomad Iv1 (June 2023)</u> " correcting a copy-paste error. No substantive changes.	N/A	2024/07/26