

# ABSTRAK

Perkembangan teknologi informasi telah membawa dampak dalam kehidupan masyarakat. Sejak penemuan komputer pada tahun 1955, peradaban dunia telah memasuki era teknologi informasi. Era permainan dengan komputer pun ikut berkembang. Permainan dengan menggunakan komputer pun banyak jenisnya, salah satunya adalah *Turn Base Strategy*. Permainan berjenis ini sudah mendunia. Oleh karena itu Universitas Kristen Maranatha mencoba untuk membuat permainan berjenis ini dengan menggabungkan sistem permainan dengan *Collectible Card Game*. Universitas Kristen Maranatha menggunakan *XNA Game Studio* untuk membuat gabungan kedua jenis permainan ini

Kata Kunci: *Turn Base Strategy*, *XNA Game Studio*, *Collectible Card Game*.

## **ABSTRACT**

Development of information technology has an impact in people's lives. Since the invention of computers in 1955. The civilization of the world has entered the era of information technology. The era of the computer game developed too. Computer games have a lot of type, one of which is called Turn Base Strategy. This type is a worldwide game, Therefore Maranatha Christian University are trying to make a game of this type by combining the system with the Collectible Card Game. Maranatha Christian University using XNA Game Studio to create a combination of both types of games.

Keywords: Turn Base Strategy, XNA Game Studio, Collectible Card Game

## DAFTAR ISI

Turn Base Strategy dan Collectible Card Game.....	i
“ Potere Di Convocare ” .....	i
LEMBAR PENGESAHAN .....	ii
PERNYATAAN ORISINALITAS LAPORAN PENELITIAN .....	iii
PERNYATAAN PUBLIKASI LAPORAN PENELITIAN.....	iv
PRAKATA.....	v
ABSTRAK .....	vi
ABSTRACT .....	vii
DAFTAR ISI .....	viii
DAFTAR GAMBAR .....	xii
DAFTAR TABEL .....	xiv
BAB I PENDAHULUAN .....	1
1.1 Latar Belakang.....	1
1.2 Rumusan Masalah.....	1
1.3 Tujuan Penelitian .....	2
1.4 Batasan Masalah .....	2
1.5 Sistematika Pembahasan .....	2
BAB II LANDASAN TEORI .....	3
2.1 XNA .....	3
2.2 XNA lifecycle.....	3
2.3 Membuat Sprite Class .....	3
2.4 Contoh Fungsi Load Content .....	4
2.5 Contoh Fungsi Draw Content .....	4
2.6 Contoh Fungsi Update.....	5
2.7 Bahasa C#.....	6
2.8 Membuat Tipe tipe Variable pada C#.....	6
2.9 Operasi Numerik pada Variable Numerik pada C# .....	7
2.10 Operator Logika dan Pernyataan Kondisional .....	8
2.11 Screen Output .....	8
2.12 Perulangan .....	9
2.13 Membuat Fungsi .....	10

2.14	InputOutput File.....	11
2.15	UML Diagram .....	12
2.16	Use Case Diagram .....	13
2.17	Activity Diagram .....	13
2.19	AI.....	15
2.20	Greedy Search .....	15
2.21	Minimaxing .....	16
2.22	Evaluation Function.....	18
BAB III ANALISA DAN PEMODELAN .....		19
3.1	Aturan Permainan .....	19
1.	Hero .....	19
2.	Deck .....	19
3.	Kartu .....	19
4.	Winning stage .....	19
3.2	Story line Permainan .....	20
3.3	Deskripsi Permainan .....	20
3.3.1	Element.....	20
3.3.2	Equip .....	21
3.3.3	Job hero.....	21
3.3.4	Item.....	21
3.3.5	Kartu.....	21
3.3.6	Turn Phase .....	21
3.4	Arsitektur Game .....	21
3.4.1	Use Case.....	21
3.4.2	Activity Diagram .....	22
3.4.3	Class Diagram .....	28
3.5	Layout Tampilan.....	30
3.5.1	menu utama .....	30
3.5.2	menu continue .....	30
3.5.3	menu option.....	31
3.5.4	Arena Stage .....	31
3.5.5	Edit Hero .....	32
3.5.6	Edit Item.....	33
3.5.7	Kartu.....	33

3.5.8	Edit Deck .....	34
3.5.9	World Map .....	35
3.6	Creative Strategy.....	36
3.6.1	Kartu.....	36
3.7	AI.....	36
BAB IV PERANCANGAN DAN IMPLEMENTASI .....		41
4.1	Method .....	41
4.1.1	ChangeTurn() pada ArenaStage.....	41
4.1.2	HeroShowMenu() pada ArenaStage.....	42
4.1.3	HeroDoMove() pada ArenaStage .....	43
4.1.5	HeroDoAttack() pada ArenaStage .....	44
4.1.6	Attack() pada kelas Hero .....	46
4.1.7	HeroDoSkill() pada ArenaStage .....	47
4.1.8	aiStep() pada MinMax .....	48
4.2	ScreenShot .....	49
4.2.1	MainMenu.....	49
4.2.2	LoadGame .....	49
4.2.3	Option .....	50
4.2.4	WorldMap .....	50
4.2.5	Town .....	52
4.2.6	BlackSmith.....	52
4.2.7	BlackSmith Trade.....	52
4.2.8	PotionStore .....	54
4.2.9	PotionStore Trade .....	54
4.2.10	Heroes .....	54
4.2.11	Heroes Menu per Unit.....	56
4.2.12	Heroes Change Equip .....	56
4.2.13	Heroes Change Job .....	56
4.2.14	Heroes Skill.....	58
4.2.15	Deck .....	58
4.2.16	Items .....	58
4.2.17	Stage Select Hero .....	60
4.2.18	Stage .....	60
4.2.19	Stage Hero Menu .....	60

4.2.20	Stage Hero MoveArea .....	62
4.2.21	Stage Hero Action Persentation .....	62
4.2.22	Stage Hero Action Effect .....	62
4.2.23	Stage Show Card.....	64
4.2.24	Stage Use Card Effect .....	64
4.2.25	Stage Remove Card .....	64
4.2.26	Pause Menu World Map .....	66
4.2.27	Save .....	66
4.2.28	Stage Clear .....	66
4.2.29	Game Over .....	68
BAB V PENGUJIAN.....		69
5.1	Metode Pengujian (Whitebox Testing) .....	69
5.1.1	Method Equip (EquipAble _equipment).....	69
5.1.2	Method RemoveEquip (EquipAble _equipment).....	70
5.1.3	Method Attack (Character _enemy).....	72
5.1.4	Method ActiveSkillSpell (Character _enemy) .....	75
BAB VI KESIMPULAN DAN SARAN .....		78
6.1	Kesimpulan.....	78
6.2	Saran .....	78
Daftar Pustaka .....		79
RIWAYAT HIDUP.....		80

## DAFTAR GAMBAR

Gambar 2.1 XNA lifecycle.....	3
Gambar 2.1 Contoh dependency class diagram.....	14
Gambar 2.2 Contoh assosiation class diagram.....	14
Gambar 2.3 Contoh algoritma Greedy.....	15
Gambar 2.4 Contoh algoritma minimaxing.....	16
Gambar 2.5 Contoh pseudocode minimaxing.....	17
Gambar 2.6 Contoh pseudocode best move only minimaxing.....	18
Gambar 2.7 Contoh pseudocode class Board minimaxing.....	18
Gambar 3.1 Use Case Diagram.....	22
Gambar 3.2 Activity Diagram New Game.....	23
Gambar 3.3 Activity Diagram Continue Game.....	23
Gambar 3.4 Activity Diagram Edit option.....	24
Gambar 3.5 Activity Diagram Edit Hero dan Equip.....	25
Gambar 3.6 Activity Diagram Edit Deck.....	25
Gambar 3.7 Activity Diagram Edit Item.....	26
Gambar 3.8 Activity Diagram Save.....	27
Gambar 3.9 Activity Use Card.....	27
Gambar 3.10 Activity Diagram Attack.....	28
Gambar 3.11 Class Diagram.....	29
Gambar 3.12 Gambar Menu Utama.....	30
Gambar 3.13 Gambar Menu Continue.....	30
Gambar 3.14 Gambar Menu option.....	31
Gambar 3.15 Gambar Area Stage.....	31
Gambar 3.16 Gambar Edit Hero.....	32
Gambar 3.17 Gambar Edit item.....	33
Gambar 3.18 Gambar kartu.....	34
Gambar 3.19 Gambar Edit Deck.....	34
Gambar 3.20 Gambar World map.....	35
Gambar 3.19 Design Kartu.....	36
Gambar 4.1 Screenshot Main menu.....	49
Gambar 4.2 Screenshot Load game.....	50

Gambar 4.3 Screenshot Option.....	51
Gambar 4.4 Screenshot World map.....	51
Gambar 4.5 Screenshot Town.....	52
Gambar 4.6 Screenshot BlackSmith.....	53
Gambar 4.7 Screenshot BlackSmith Trade.....	53
Gambar 4.8 Screenshot Potion Store.....	54
Gambar 4.9 Screenshot Potion Store Trade.....	55
Gambar 4.10 Screenshot Heroes.....	55
Gambar 4.11 Screenshot Heroes per Unit.....	56
Gambar 4.12 Screenshot Heroes Change Equip.....	57
Gambar 4.13 Screenshot Heroes Change Job.....	57
Gambar 4.14 Screenshot Heroes Skill.....	58
Gambar 4.15 Screenshot Deck.....	59
Gambar 4.16 Screenshot Item.....	59
Gambar 4.17 Screenshot Select Hero.....	60
Gambar 4.18 Screenshot Stage.....	61
Gambar 4.19 Screenshot Stage Hero Menu.....	61
Gambar 4.20 Screenshot Stage Hero Move Area.....	62
Gambar 4.22 Screenshot Stage Action Effect.....	63
Gambar 4.23 Screenshot Stage Show Card.....	64
Gambar 4.24 Screenshot Use Card Effect.....	65
Gambar 4.25 Screenshot Remove Card.....	65
Gambar 4.26 Screenshot Menu Pause.....	66
Gambar 4.27 Screenshot Save.....	67
Gambar 4.28 Screenshot Stage Clear.....	67
Gambar 4.29 Screenshot GameOver.....	68
Gambar 5.1 Flowgraph method equip.....	69
Gambar 5.2 Flowgraph method RemoveEquip.....	72
Gambar 5.3 Flowgraph method Attack.....	73
Gambar 5.4 Flowgraph method ActiveSkillSpell.....	75



## DAFTAR TABEL

Table 2.2 Simbol Usecase Diagram .....	13
Tabel 2.3 Simbol Activity Diagram .....	13
Tabel 2.4 Contoh Class Diagram .....	14
Tabel 5.1 Testcase 1 Equip .....	69
Tabel 5.2 Testcase 2 Equip .....	70
Tabel 5.3 Testcase 1 Remove Equip .....	71
Tabel 5.4 Testcase 2 Remove Equip .....	71
Tabel 5.5 Testcase 1 Attack .....	73
Tabel 5.6 Testcase 2 Attack .....	73
Tabel 5.7 Testcase 3 Attack .....	74
Tabel 5.8 Testcase 4 Attack .....	74
Tabel 5.9 Testcase 5 Attack .....	74
Tabel 5.10 Testcase 1 ActiveSkillSpell .....	76
Tabel 5.11 Testcase 2 ActiveSkillSpell .....	76
Tabel 5.12 Testcase 3 ActiveSkillSpell .....	76
Tabel 5.13 Testcase 4 ActiveSkillSpell .....	76
Tabel 5.14 Testcase 5 ActiveSkillSpell .....	77