

Table of Contents – CONSTRUCT Game Creation 2010

<u>LICENSE AGREEMENT.....</u>	<u>5</u>
<u>PREFACE.....</u>	<u>7</u>
VERSION INFORMATION.....	7
<u>BASIC CONCEPTS</u>	<u>8</u>
WHAT KINDS OF GAME IS CONSTRUCT OPTIMIZED FOR? IS CONSTRUCT 3D CAPABLE?	8
WHY IS CONSTRUCT A GOOD CHOICE FOR ELEMENTARY GAME CREATION?	11
IS CONSTRUCT A GOOD CHOICE FOR ADVANCED LEVEL GAME CREATION?	12
DO I NEED ANY SPECIAL LICENSES FOR ADVANCED GAME CREATION?	13
IS CONSTRUCT GOING TO BE EASY (FOR ME) IF I HAVE RICH BACKGROUND IN PROCEDURAL PROGRAMMING LANGUAGES LIKE C AND PASCAL?	15
WHY WOULD ONE PREFER CONSTRUCT OVER GM8 FOR GAME CREATION?.....	15
WHY WOULD ONE PREFER CONSTRUCT OVER MMF2 FOR GAME CREATION?.....	16
CAN I MASTER CONSTRUCT WITHOUT UNDERSTANDING ANY PROGRAMMING CONCEPT?.....	16
WHAT IS SPECIAL ABOUT AN EVENT DRIVEN SYSTEM? HOW DOES IT WORK?	17
CAN I WRITE SCRIPT AND USE IT IN CONSTRUCT?	21
SEPARATING GRAPHIC DESIGN FROM GAME DESIGN... ..	23
I AM CONFUSED – HOW DO THE TERMS APPLICATION, GAME, LAYOUT, AND WINDOW RELATE TO EACH OTHERS?	27
WHAT IS THE RELATIONSHIP BETWEEN A WINDOW, A LAYOUT AND A LAYER?	30
WINDOWS SETTINGS	33
WHAT IS THE RELATIONSHIP BETWEEN A LAYOUT AND AN EVENT SHEET?	34
WHY SHOULD I OPTIMIZE THE EVENT LIST? WOULD AN “OPTIMIZED” EVENT LIST MAKE A TRUE DIFFERENCE IN PERFORMANCE?	37
IMPLEMENTING IF THEN ELSE IN CONSTRUCT	40
CLONING VS COPYING: WHAT IS THE DIFFERENCE?	42

EFFECTS ON DUPLICATED/PASTED OBJECTS..... 46

DEVELOPMENT TOOLS CONFIGURATION..... 48

WHAT CONFIGURATION SHOULD I USE FOR MY CONSTRUCT DEVELOPMENT STATION? 48

WHAT IS THE RECOMMENDED DISK LAYOUT FOR MY CONSTRUCT DEVELOPMENT STATION? .. 49

HOW MUCH DISK SPACE SHOULD I KEEP FOR CONSTRUCT? 50

DESIGN TIME PERFORMANCE VS RUNTIME PERFORMANCE 52

DESIGN-END PERFORMANCE VS USER-END PERFORMANCE 52

WHAT AMOUNT OF MEMORY SHOULD I INSTALL IN MY CONSTRUCT DEVELOPMENT STATION?

DO I NEED A DUAL CORE PROCESSOR?..... 53

HOW DO I OPTIMIZE CONSTRUCT ON MY DEVELOPMENT STATION?..... 55

DO I NEED A HIGH PERFORMANCE GRAPHIC CARD IN MY CONSTRUCT DEVELOPMENT STATION?

..... 56

DO I NEED A LARGE CHUNK OF VIDEO RAM ON MY GRAPHIC CARD TO SUPPORT CONSTRUCT?

HOW DO I KEEP TRACK OF THE AMOUNT OF AVAILABLE VIDEO RAM? 58

DO I NEED DIRECTX 9 OR DIRECTX 10 INSTALLED? 61

WHICH WINDOWS VERSION SHOULD BE USED TO POWER MY CONSTRUCT DEVELOPMENT

STATION?..... 62

WHAT OTHER DEVELOPMENT TOOLS SHOULD I INSTALL ON MY COMPUTER? 64

WHAT TOOL CAN I USE TO OPEN TEXTURE FILES OF ANOTHER FORMAT AND CONVERT THEM TO

BMPs FOR FURTHER MANIPULATION? 66

WHICH RELEASE VERSION OF CONSTRUCT SHOULD I USE FOR DEVELOPMENT?..... 69

IF MY HARD DRIVE CRASHES, WHAT SPECIAL PROCEDURES ARE NECESSARY SO I CAN REINSTALL

CONSTRUCT ONTO A NEW DRIVE? 70

CAN I INSTALL CONSTRUCT WITHOUT ANY ACTIVE NETWORK CONNECTION? 70

ARE THE CONSTRUCT APPLICATION FILES VULNERABLE TO VIRUS ATTACK? 71

PERFORMANCE CONCERNS 71

WHAT IS THE OPTIMAL DISPLAY RESOLUTION AND COLOR DEPTH FOR CONSTRUCT TO

OPERATE AT DESIGN TIME? 71

WHAT IS THE OPTIMAL DISPLAY RESOLUTION FOR CONSTRUCT GAME TO OPERATE AT
 RUNTIME? WHAT IS THE DIFFERENCE BETWEEN WINDOWED MODE AND FULL SCREEN MODE?... 73

WHAT IS THE OPTIMAL COLOR DEPTH FOR CONSTRUCT GAME TO OPERATE AT RUNTIME? 77

WHAT IS THE ROLE OF DIRECTDRAW? 77

WHAT FRAMERATE SETTING SHOULD I USE? 78

CAN I SELECT DIFFERENT DISPLAY MODES FOR DIFFERENT GAME LEVELS? 79

HOW SHOULD I DEFINE THE “MINIMUM SYSTEM REQUIREMENT”? 80

WHAT DIFFERENCE CAN DIRECTX SUPPORT MAKE? ANY LIMITATIONS? 80

HOW TO DEFINE AND MEASURE SCREEN PERFORMANCE? 81

CAN I IMPROVE SCREEN PERFORMANCE BY MOVING MOST ACTIVE OBJECTS OFF SCREEN? 82

WHAT ARE SHADERS AND HOW DO THEY WORK WITH THE DISPLAY HARDWARE? 83

WHEN SHOULD I DISABLE PS ALTOGETHER? 86

WHAT IS ANTI-ALIASING ALL ABOUT? 87

WHAT ARE THE MAJOR RUNTIME PERFORMANCE OBSTACLES? 88

GAME DESIGN 89

WHY WOULD A SINGLE LARGE OBJECT BE COUNTER-PRODUCTIVE AT RUNTIME? 89

WHAT IS THE DIFFERENCE BETWEEN A PIVOT POINT AND AN IMAGE POINT? HOW TO USE THEM? 90

HOW TO ASSIGN MOVEMENT TO A CHARACTER SPRITE? 95

CAN I HAVE MULTIPLE 8DIRECTION MOVEMENT ASSIGNED TO DIFFERENT CHARACTERS AT THE
 SAME TIME? ANY ALTERNATIVE? 96

HOW TO ASSIGN MOVEMENT TO A BULLET CHARACTER SPRITE? HOW ABOUT HITTING A TARGET?
 100

WHAT IS THE CORRECT WAY OF SPAWNING A BULLET? 102

HOW TO ENSURE THAT THE “MASTER” BULLET AND OTHER “MASTER OBJECTS” THAT WERE
 PLACED OUTSIDE WILL NOT BE VISIBLE? 104

HOW DO I ALLOW FOR MULTIPLE BULLETS TO BE PROPELLED TOWARDS DIFFERENT DIRECTIONS
 AT THE SAME TIME? 106

WHY SHOULD I IMPLEMENT MULTIPLE LAYERS? 107

COLLISION DETECTION ON THE SAME LAYER...	110
COLLISION DETECTION ACROSS DIFFERENT LAYERS...	113
WHAT IS SPECIAL ABOUT BACKGROUND TILING?	114
A SINGLE LARGE OBJECT VS A GROUP OF SMALLER OBJECTS LINKED TOGETHER: A DESIGN TIME DECISION?	117
MORE ON “BINDING” OBJECTS TOGETHER...	119
CONFIGURING BIG BOSSES FOR YOUR LEVELS	120
HOW TO USE PRIVATE VARIABLE?	121
HOW TO PLAY ANIMATION AND/OR MOVIE IN THE GAME?	123
HOW TO PLAY SOUND AND MUSIC IN THE GAME?	125
THE FANCY WAY OF CARRYING A WEAPON	129
SCREEN SCROLLING	129
IS IT A BAD IDEA TO CONSTRUCT A VERY LARGE LEVEL IN THE GAME?	133
WHAT ACTION CAN BE USED TO SAVE AND LOAD GAME DATA?	136
HOW CAN I MAKE INSTALLATION OF MY STANDALONE GAME EASIER?	138