

Table of Contents – 3D RAD Game Creation 2010 (Vol. 1)

<u>LICENSE AGREEMENT.....</u>	<u>6</u>
<u>PREFACE.....</u>	<u>8</u>
VERSION INFORMATION.....	9
<u>BASIC CONCEPTS</u>	<u>10</u>
WHAT IS A 3D GAME ENGINE?	10
WHAT KINDS OF GAME IS 3DRAD OPTIMIZED FOR?	10
CAN I USE 3DRAD TO CREATE COMMERCIAL QUALITY 3D GAMES?	12
WHAT IS SPECIAL ABOUT 3DRAD VERSION 7 AND ITS NEW PHYSICS ENGINE?	12
WHY SHOULD WE CARE ABOUT PHYSICS?	13
IS “PHYSICS” A REQUIRED ELEMENT OF COLLISION DETECTION?.....	13
IS 3DRAD 2D CAPABLE?.....	13
IS 3DRAD CAPABLE OF CREATING FPS GAME?	14
WHAT IS A CAMERA FOR?.....	14
IS 3DRAD CAPABLE OF CREATING 3D GAME RUN UNDER A BIRD EYE VIEW?	15
HOW DO I ACTIVATE MY COPY OF 3DRAD?	16
HOW DO I UPDATE, EXTEND AND/OR PATCH THE 3DRAD PROGRAM?	16
CAN I SELL THE GAME I CREATE THROUGH 3DRAD?	17
WHAT IS MFC AND WHY SHOULD I CARE ABOUT IT?.....	17
IF MY GAME USES THOSE STOCK 3D MODELS INCLUDED IN THE 3DRAD PACKAGE, DO I NEED TO PAY A LICENSE FEE?	20
CAN I ESTABLISH COPYRIGHT ON THE GAME I CREATE THROUGH 3DRAD?	21
WHAT IS THE DIFFERENCE BETWEEN DIRECT3D AND OPENGL? WHICH ONE OF THEM IS REQUIRED FOR RUNNING 3DRAD?	22
WHICH DIRECTX VERSION SHOULD I HAVE ON MY DEVELOPMENT STATION?	22
IS DIRECT3D RELIABLE ON 3DRAD?	25

WHY IS 3DRAD A GOOD CHOICE FOR ELEMENTARY GAME CREATION? 25

WHY SHOULD ONE PREFER 3DRAD OVER OTHER DEVELOPMENT PLATFORMS FOR 3D RACE CAR GAME CREATION? 26

HOW DOES 3DRAD COMPARE TO THE GAME MAKER 8 (GM8) IN TERMS OF 3D GAME CREATION? 27

HOW DOES 3DRAD COMPARE TO THE 3D GAMEMAKER (T3DGM) IN TERMS OF 3D GAME CREATION? 27

HOW DOES 3DRAD COMPARE TO FPS CREATOR IN TERMS OF 3D GAME CREATION? 28

IS 3DRAD A GOOD CHOICE FOR ADVANCED LEVEL GAME CREATION? 28

CAN I USE 3DRAD TO CREATE WEB GAMES? ARE THE GAMES JAVA/FLASH COMPATIBLE? 29

IS 3DRAD GOING TO BE EASY IF I HAVE RICH BACKGROUND IN PROCEDURAL PROGRAMMING LANGUAGES? 30

CAN I MASTER 3DRAD WITHOUT UNDERSTANDING ANY PROGRAMMING CONCEPT? 31

CAN I MASTER 3DRAD WITHOUT KNOWING C OR C++? 31

WHAT IS SPECIAL ABOUT AN EVENT DRIVEN SYSTEM? HOW DOES IT WORK? 32

WHAT ARE THE AVAILABLE TYPES OF EVENT IN 3DRAD? 33

SEPARATING GRAPHIC DESIGN FROM GAME DESIGN... 34

DO I NEED TO CREATE ANIMATION FOR THE GAME? 35

WHAT SOFTWARE CAN I USE TO CREATE ANIMATED SPRITES? 37

IS ANIMATED SPRITE THE SAME AS ANIMATED TEXTURE? 38

SHOULD I START WITH RESOURCES FIRST OR GAME LEVEL DESIGN FIRST? 39

I AM CONFUSED – HOW DO THE TERMS VIRTUAL WORLD, GAME, PROJECT, PROGRAM, LEVEL, OBJECTS AND PROPERTIES RELATE TO EACH OTHERS? 39

CAN I INSERT THE SAME OBJECT INTO THE SAME VIRTUAL WORLD MULTIPLE TIMES? 40

WHAT IS THE PREFERRED DESIGN-TIME DISPLAY CONFIGURATION IN TERMS OF RESOLUTION? . 41

WHAT IS THE DEFAULT DESIGN-TIME DISPLAY CONFIGURATION IN TERMS OF COLOR DEPTH? 42

WHY IS FULL SCREEN MODE PREFERABLE? HOW DO I CONFIGURE THE RUNTIME DISPLAY SETTINGS? 43

WHAT IS ADAPTIVE GFX? 44

WHERE IS THE RUNTIME DISPLAY CONFIGURATION STORED? 44

WHY WOULD I NEED MULTIPLE LEVELS? CAN I USE ONE BIG LEVEL TO HOST EVERYTHING? 45

WHY SHOULD I MANUALLY CREATE TEMPORARY FOLDER FOR PURPOSE OF COMPILING MY PROJECT?..... 46

DEVELOPMENT TOOLS CONFIGURATION..... 47

WHAT CONFIGURATION SHOULD I USE FOR MY 3DRAD DEVELOPMENT STATION?..... 47

WHAT IS THE DISK SPACE REQUIREMENT AND DIRECTORY STRUCTURE OF 3DRAD? 48

WHAT IS THE RECOMMENDED DISK LAYOUT FOR MY 3DRAD DEVELOPMENT STATION? 49

HOW MUCH DISK SPACE SHOULD I KEEP FOR 3DRAD?..... 50

DESIGN-END PERFORMANCE VS USER-END PERFORMANCE 50

WHAT AMOUNT OF MEMORY SHOULD I INSTALL IN MY 3DRAD DEVELOPMENT STATION? DO I NEED A DUAL CORE PROCESSOR? 51

DO I NEED A HIGH PERFORMANCE GRAPHIC CARD IN MY 3DRAD DEVELOPMENT STATION?..... 52

DO I NEED A LARGE CHUNK OF VIDEO RAM ON MY GRAPHIC CARD TO SUPPORT 3DRAD? DO I NEED DIRECTX 9 OR DIRECTX 10 INSTALLED? DO I NEED THE SDK? HOW ABOUT OPENGL? ... 54

WHICH WINDOWS VERSION SHOULD BE USED TO POWER MY 3DRAD DEVELOPMENT STATION? 56

I WANT TO RUN 3DRAD ON A NON-WINDOWS WORKSTATION. IS IT POSSIBLE? 57

WINDOWS XP SERVICE PACK ISSUE..... 57

DISPLAY DRIVER ISSUES 57

THE STANDALONE GAME CRASHES WHEN PROGRESSING..... 59

CAN I INSTALL AND RUN 3DRAD WITHOUT ANY ACTIVE NETWORK CONNECTION? 59

IF MY HARD DRIVE CRASHES, WHAT SPECIAL PROCEDURES ARE NECESSARY SO I CAN REINSTALL 3DRAD ONTO A NEW DRIVE? 59

IS A SOUND CARD REQUIRED ON THE DEVELOPMENT STATION? 60

ARE THE 3DRAD APPLICATION FILES VULNERABLE TO VIRUS ATTACK? 60

WHAT IS CONSIDERED AS AN “EDITABLE COPY” OF MY GAME? WHAT ABOUT A COMPILED COPY?61

GAME DESIGN 62

PROGRAMMING WITHOUT WRITING CODES: HOW DOES IT START IN 3DRAD? 62

PROGRAMMING WITHOUT WRITING CODES: HOW TO LINK UP OBJECTS?..... 65

PROGRAMMING WITHOUT WRITING CODES: HOW TO APPLY GRAVITY TO THE CAR AND LET IT RUN ON THE TERRAIN? 66

PROGRAMMING WITHOUT WRITING CODES: WHY SHOULD WE NEED TO USE A CHASING CAMERA? HOW DO I IDENTIFY IT? CAN IT COEXIST WITH A 1ST PERSON CAM?..... 69

PROGRAMMING WITHOUT WRITING CODES: WHAT IS THE DIFFERENCE BETWEEN A CAMCHASE AND A 1ST PERSON CAM? 71

PROGRAMMING WITHOUT WRITING CODES: WHEN SHOULD I USE THE WHEEL OBJECT?..... 71

PROGRAMMING WITHOUT WRITING CODES: HOW DO I GIVE A SMARTER LOOK TO THE CAR OBJECT? 73

PROGRAMMING WITHOUT WRITING CODES: WHAT ABOUT THE WHEELS? 79

PROGRAMMING WITHOUT WRITING CODES: HOW DO I BETTER ORGANIZE ALL THESE OBJECT PIECES? 83

PROGRAMMING WITHOUT WRITING CODES: HOW TO ADD OBSTACLES? 84

PROGRAMMING WITHOUT WRITING CODES: HOW DO I USE A RIGID OBJECT AS AN OBSTACLE ON THE ROAD?..... 85

PROGRAMMING WITHOUT WRITING CODES: WHAT IS THE MAJOR DIFFERENCE BETWEEN A ROCK AND A RIGID BODY FOR SERVING AS AN OBSTACLE? 88

PROGRAMMING WITHOUT WRITING CODES: HOW DO I CONFIGURE COLLISION DETECTION FOR A CAR CRASH?..... 88

PROGRAMMING WITHOUT WRITING CODES: HOW DO I ADD A SOUND EFFECT TO A CRASH EVENT (SAY, THE CAR BUMPS INTO A ROCK)? 92

PROGRAMMING WITHOUT WRITING CODES: WHAT IS SPECIAL ABOUT THE SOUNDSource OBJECT? 93

PROGRAMMING WITHOUT WRITING CODES: DO I NEED TO CONFIGURE AN INPUT CONTROL FOR THE CAR OBJECT EXPLICITLY?..... 94

PROGRAMMING WITHOUT WRITING CODES: HOW TO USE THE HIGH WAY CONSTRUCTION KIT? . 96

PROGRAMMING WITHOUT WRITING CODES: IF I WANT DIFFERENT ACTIONS TO BE TAKEN UPON DIFFERENT KEYSTROKES, WHAT OBJECT(S) SHOULD BE DEPLOYED? 100

PROGRAMMING WITHOUT WRITING CODES: CAN I ALLOW THE SWITCHING OF VEHICLES AT RUNTIME? 103

PROGRAMMING WITHOUT WRITING CODES: CAN I ALLOW THE SWITCHING OF CAMERA VIEWS

AT RUNTIME?	106
PROGRAMMING WITHOUT WRITING CODES: HOW DO I DISPLAY A MESSAGE ON SCREEN WHEN THE CAR ENTERS A SPECIFIC AREA?.....	108
WHAT SOUND EFFECT FORMAT IS SUPPORTED?	110
WHAT IS THE OPTIMAL DISPLAY RESOLUTION AND COLOR DEPTH FOR 3DRAD TO OPERATE AT DESIGN TIME AND AT RUNTIME?	111
HOW SHOULD I DEFINE THE RUNTIME “MINIMUM SYSTEM REQUIREMENT”?.....	111
WHAT LIMITS THE DISPLAY CAPABILITY OF 3DRAD?	112
WHAT COMPATIBILITY ISSUES CAN BE FORESEEN WITH DIRECTX SUPPORT IMPLEMENTED?	112
DISPLAY CARD DRIVER PERFORMANCE ISSUE	114
HOW TO DEFINE RUNTIME SCREEN PERFORMANCE?	114
HOW DO I MEASURE ACTUAL RUNTIME SCREEN PERFORMANCE?.....	115
WHAT ARE THE MAJOR RUNTIME PERFORMANCE OBSTACLES?	116
HOW DO I MAKE MY 3D MODELS SIMPLER?.....	117
WHY WOULD I ENCOUNTER AN UNEXPECTED ERROR WHILE THE GAME IS LOADING?.....	118
WHAT IS SPECIAL ABOUT THE DDS FORMAT? WHAT TOOL CAN I USE TO OPEN IT?.....	118
WHAT IS SPECIAL ABOUT THE .X FORMAT? WHAT TOOL CAN I USE TO CREATE .X BASED MODELS?	124
HOW DO I CREATE MY OWN TEXTURE FILES?	131
HOW TO PRODUCE VEHICLE SMOG?	134
HOW DO I IMPORT VEHICLE OBJECTS INTO 3DRAD?	136
HOW CAN I MAKE INSTALLATION OF MY STANDALONE GAME EASIER?	144