Omar Belih
Software Engineer

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About me

Software Engineer that is passionate about science and technology especially Computer Graphics , Game Development & Robotics.

Skills

Languages:
C/C++, Java, JavaScript

Game/Graphics Programming:
Modern OpenGL[3.3+], SDL2.0, CEGUI, ImGUI, GLSL, Unity, Unreal Engine

Web Development:
NodeJs , ThreeJS

Others:
Git, Unix Bash, Slack, JavaFX, SQL, MongoDB, Arduino, Matlab

Education

2016-2021	Faculty of Engineering	Alexandria University
	Computer & Communications Department. GPA 3.22	

Awards

2018	5th Place in UGVC2018 with MindCloud.
2018	4th Place in Minesweeper2018 with MindCloud.

Experience

2017-2019	Software Engineer at MindCloud	Technical Team
	University Robotics Team.	

Projects

Ongoing — Game-X Engine *C++ SDL OpenGL ImGUI*

GameX Engine is a 2D/3D Game Engine[Work In Progress].
-Windowing using SDL.
-Graphics Renderer working OpenGL.
-Logging using spdlog & GUI System using ImGui.
-Event System. -Model importing using Assimp.

Jul-2019 — Minesweeper Grid Visualization *Web Development [NodeJS ThreeJS]*

NodeJS application to Visualize how the mines are put into the grid in Minesweeper robotics competition in Real-Time.

May-2019 — SIC/XE Assembler *Java JavaFX*

Two Pass Assembler that translate SIC/XE to obj code.
-You can load your code file or you can write it directly into the Editor then the user can check the output from the 'Assemble' menu like the ListFile and the ObjFile.

Mar-2019 — Lort Renderer *C++ SDL*

Optimized Software Renderer that written in an way to get high FPS.
-Fixed Point arithmetic.
-Perspective correct texture mapping.
-Lighting and Shadows
-OBJ Models Support.
-SIMD Maths.

Oct-2018 — GameX Level Editor *C++ OpenGL SDL CEGUI*

User-Friendly Level Editor that helps to create 3D Environments.
-Stable For OBJ models [Supports other formats]
-config. file that enables flexibility for the user.
-General GLSL inputs that can be used for any user made GLSL files.
-Navigation mesh That helps to find walk-able areas of the map.
-Relatively good graphics with Directional & Point Light Support along with Normal mapping in Tangent Space,Reflective water surface and Shadows.

May-2018 — Maze Runner *Java JavaFX*

Game that challenges the player to finish a maze.
-Flipbook animations on JavaFX Canvas.
-Different Design Patterns were used.
-Particle effects , Camera and other challenging game objects.

Apr-2018 — Text Autocorrect *C Java JavaFX*

Uploads custom dictionary to an auto-balancing tree that is used to suggest correct words.
-Two versions AVL Tree[C],RB Tree [Java JavaFX]

Mar-2018 — Paint *Java JavaFX*

-Drag & Drop Shapes. -Different Design Patterns were used.

Feb-2018 — Asteroids 1979 *C++ OpenGL*

Clone of 1979 Asteroids retro game.