

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT7580472

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	
CONVEYING PARTY DATA		
Name		Execution Date
SNAP ISRAEL 2016 LTD		08/10/2022
RECEIVING PARTY DATA		
Name:	SNAP INC.	
Street Address:	3000 31ST STREET	
City:	SANTA MONICA	
State/Country:	CALIFORNIA	
Postal Code:	90405	
PROPERTY NUMBERS Total: 56		
Property Type	Number	
Application Number:	16662657	
Application Number:	16909063	
Application Number:	17183395	
Application Number:	17654714	
Application Number:	12978493	
Application Number:	13448187	
Application Number:	13726763	
Application Number:	14173735	
Application Number:	14311299	
Application Number:	14479322	
Application Number:	15009442	
Application Number:	14479326	
Application Number:	14479334	
Application Number:	14479336	
Application Number:	14585495	
Application Number:	14868461	
Application Number:	15615037	
Application Number:	15640464	
Application Number:	15640466	
Application Number:	15640467	

PATENT

Property Type	Number
Application Number:	16231520
Application Number:	16275366
Application Number:	16275371
Application Number:	16275907
Application Number:	16444464
Application Number:	16736848
Application Number:	16994615
Application Number:	15376580
Application Number:	15659618
Application Number:	15984359
Application Number:	16444431
Application Number:	16788845
Application Number:	17019274
Application Number:	17327690
Application Number:	16004348
Application Number:	16788792
Application Number:	16844681
Application Number:	16874705
Application Number:	17019272
Application Number:	17227340
Application Number:	17411637
Application Number:	62755548
Application Number:	62755568
Application Number:	61292152
Application Number:	61282241
Application Number:	61347380
Application Number:	61422100
Application Number:	61761062
Application Number:	61894005
Application Number:	61894144
Application Number:	62266584
Application Number:	62289927
Application Number:	62354755
Application Number:	62408730
Application Number:	62957157
Application Number:	63067881

CORRESPONDENCE DATA

Fax Number:

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 6123736900

Email: uspto@slwip.com

Correspondent Name: SCHWEGMAN LUNDBERG & WOESSNER

Address Line 1: P.O. BOX 2938

Address Line 4: MINNEAPOLIS, MINNESOTA 55402

ATTORNEY DOCKET NUMBER:	4218.000001
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NAME OF SUBMITTER:	MICHELLE RED BEAR
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SIGNATURE:	/Michelle Red Bear/
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DATE SIGNED:	10/07/2022
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Total Attachments: 12

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ASSIGNMENT

WHEREAS, Snap Israel 2016 LTD, an entity organized and existing under and by virtue of the laws of Israel, and having an office and place of business at Meshek 25, Kfar Yehoshua, 3658200, Israel (hereinafter "Assignor"), is the owner of assets identified in Appendix A (hereinafter collectively "Patent Properties"), including all inventions and other subject matter described in the Patent Properties;

AND WHEREAS, Snap Inc., an entity organized and existing under and by virtue of the laws of Delaware, United States of America, and having an office and place of business at 3000 31st Street, Santa Monica, California, 90405, United States of America (hereinafter "Assignee"), is desirous of acquiring the entire right, title and interest in and to said Patent Properties, including all inventions and other subject matter described therein, and any patent to be obtained in relation therefor;

NOW, THEREFORE, to all whom it may concern, be it known that for good and valuable consideration, the receipt and sufficiency whereof is hereby acknowledged, the Assignor hereby:

ASSIGNS, CONVEYS AND TRANSFERS to the Assignee the Assignor's entire right, title, and interest for the United States and all foreign countries and jurisdictions in and to:

said Patent Properties, including all original and reissued patents which have been or shall be issued in the United States and all foreign countries and jurisdictions based in whole or in part on any of said Patent Properties;

all divisional, continuing (including continuation-in-part), substitute, renewal, reissue, and all other applications for a patent or patents which have been or shall be filed in the United States (including all provisional and non-provisional applications), and in all foreign countries and jurisdictions, based in whole or in part on any of said Patent Properties (including any application for a utility model or an innovation patent application);

the right to claim priority to said Patent Properties in relation to subject matter based in whole or in part on said Patent Properties and any of the foregoing including the right to file foreign applications under the provisions of any convention or treaty;

and the right to all causes of action, remedies, and other enforcement rights related to said Patent Properties, including without limitation the right to sue for past, present, or future infringement, misappropriation, or violation of any and all rights related to said Patent Properties and any of the foregoing, including the right to obtain and collect damages and/or royalties due for past, present, or future infringement;

AUTHORIZES AND REQUESTS the issuing authority to issue any and all United States and foreign patents granted on said Patent Properties to the Assignee;

AUTHORIZES AND REQUESTS that any attorney associated with U.S. Patent and Trademark Office (USPTO) Customer No. 144407 may (directly or through his/her designee) delete, insert, or alter any information related to said Patent Properties or any of the foregoing, after execution of this Assignment;

WARRANTS AND COVENANTS that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been or shall be made to others by the Assignor, and that the full right to convey the same as herein expressed is possessed by the Assignor;

COVENANTS, that when requested and without compensation, but at the expense of the Assignee, in order to carry out in good faith the intent and purpose of this Assignment, the Assignor shall (1) secure cooperation from all present and former employees and/or inventors contributing or having contributed to the Patent Properties; (2) execute all provisional, non-provisional, divisional, continuing (including continuation-in-part), substitute, renewal, reissue, and all other patent applications for the Patent Properties; (3) execute all rightful oaths, declarations, assignments, powers of attorney and other papers for the Patent Properties; (4) communicate to the Assignee all facts known to the Assignor relating to the Patent Properties and the history thereof; (5) cooperate with the Assignee in any interference, reexamination, review proceeding, reissue, opposition, dispute, or litigation involving any of the applications or patents for the Patent Properties; and (6) take such further actions as the Assignee shall reasonably consider necessary or desirable for vesting title to said Patent Properties in the Assignee, or for securing, maintaining and enforcing proper patent protection for the Patent Properties; and

COVENANTS, that should any provision of this agreement be held unenforceable by an authority of competent jurisdiction, such a ruling shall not affect the validity and enforceability of the remaining provisions.

THIS AGREEMENT IS TO BE BINDING on the assigns, representatives, and successors of the Assignor, and is to extend to the benefit of the successors, assigns, and nominees of the Assignee.

AGREED to by Assignor as of the Date of the Signature Below:

Assignor:

Snap Israel 2016 LTD

Signature: 

Printed Name: Atul Porwal

Title: Director

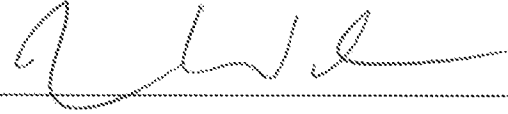
Date: August 8, 2022

ACCEPTED by Assignee as of the Date of the Signature Below:

Assignee:

Snap Inc.

Signature:



Printed Name: Mark Wadrzyk

Title: Vice President and Deputy General Counsel, Intellectual
Property

Date:

10 August 2022

Appendix A

SLW REFERENCE NUMBER	COUNTRY	APPLICATION NUMBER	TITLE	FILING DATE
4218.E64PRV	United States of America	62/755,548	METHOD AND SYSTEM FOR NON- PLANAR REFLECTIONS IN PATH TRACING	November 4, 2018
4218.E64US1	United States of America	16/662,657	METHOD FOR NON-PLANAR SPECULAR REFLECTIONS IN HYBRID RAY TRACING	October 24, 2019
4218.E64US2	United States of America	16/909,063	SPECULAR REFLECTIONS IN HYBRID RAY TRACING	June 23, 2020
4218.E64US3	United States of America	17/183,395	SYSTEM FOR NON-PLANAR SPECULAR REFLECTIONS IN HYBRID RAY TRACING	February 24, 2021
4218.E64US4	United States of America	17/654,714	SYSTEM FOR NON-PLANAR SPECULAR REFLECTIONS IN HYBRID RAY TRACING	March 14, 2022
4218.E65PRV	United States of America	62/755,568	METHOD AND SYSTEM FOR DECOUPLING IN PATH TRACING	November 5, 2018
4218.E66PRV	United States of America	61/292,152	METHOD AND APPARATUS FOR PARALLEL RAY-TRACING EMPLOYING MODULAR SPACE DIVISION	January 4, 2010
4218.E66PV2	United States of America	61/282,241	METHOD AND APPARATUS FOR PARALLEL RAY-TRACING EMPLOYING MODULAR SPACE DIVISION	January 6, 2010
4218.E66US1	United States of America	12/978,493	METHOD AND APPARATUS FOR PARALLEL RAY-TRACING EMPLOYING MODULAR SPACE DIVISION	December 24, 2010
4218.E66US2	United States of America	13/448,187	METHOD AND APPARATUS FOR PARALLEL RAY-TRACING EMPLOYING MODULAR SPACE DIVISION	April 16, 2012
4218.E67PRV	United States of America	61/347,380	METHOD AND APPARATUS FOR PARALLEL RAY-TRACING EMPLOYING MODULAR DATA STRUCTURE	May 22, 2010
4218.E68PRV	United States of America	61/422,100	METHOD AND SYSTEM FOR DYNAMIC LOAD BALANCING OF DATA PARALLEGL PROCESSING	December 10, 2010
4218.E69US1	United States of America	13/726,763	METHOD AND APPARATUS FOR INTERPROCESSOR COMMUNICATION EMPLOYING MODULAR SPACE DIVISION	December 26, 2012
4218.E70PRV	United States of America	61/761,062	STENCIL-BASED ADAPTIVE RAY BOUNCING	February 5, 2013

4218.E70US1	United States of America	14/173,735	METHODS AND SYSTEMS FOR COLLISION-CULLING OF LINES OVER POLYGONS	February 5, 2014
4218.E71US1	United States of America	14/311,299	COLLISION-CULLING OF LINES OVER POLYGONS	June 22, 2014
4218.E72PRV	United States of America	61/894,005	SYSTEM FOR PRIMARY RAY SHOOTING HAVING GEOMETRICAL STENCILS	October 22, 2013
4218.E72US1	United States of America	14/479,322	RAY SHOOTING METHOD UTILIZING GEOMETRICAL STENCILS	September 7, 2014
4218.E72US2	United States of America	15/009,442	SHADOWING METHOD FOR RAY TRACING BASED ON GEOMETRICAL STENCILS	January 28, 2016
4218.E73US1	United States of America	14/479,326	SYSTEM FOR PRIMARY RAY SHOOTING HAVING GEOMETRICAL STENCILS	September 7, 2014
4218.E77US1	United States of America	14/479,334	METHOD OF STENCIL MAPPED SHADOWING	September 7, 2014
4218.E78PRV	United States of America	61/894,144	RAY SHADOWING METHOD UTILIZING GEOMETRICAL STENCILS	October 22, 2013
4218.E78US1	United States of America	14/479,336	STENCIL MAPPED SHADOWING SYSTEM	September 7, 2014
4218.E79US1	United States of America	14/585,495	EFFICIENT INTER-PROCESSOR COMMUNICATION IN RAY TRACING	December 30, 2014
4218.E80US1	United States of America	14/868,461	METHOD AND APPARATUS FOR AN INTER-CELL SHORTEST COMMUNICATION	September 29, 2015
4218.E81US1	United States of America	15/615,037	METHOD FOR RAY TRACING AUGMENTED OBJECTS	June 6, 2017
4218.E81US2	United States of America	15/640,464	SYSTEM FOR RAY TRACING AUGMENTED OBJECTS	July 1, 2017
4218.E81US3	United States of America	15/640,466	METHOD FOR FAST INTERSECTION OF SECONDARY RAYS WITH GEOMETRIC OBJECTS IN RAY TRACING	July 1, 2017
4218.E81US4	United States of America	15/640,467	SYSTEM FOR FAST INTERSECTION OF SECONDARY RAYS WITH GEOMETRIC OBJECTS IN RAY TRACING	July 1, 2017
4218.E81US5	United States of America	16/231,520	SYSTEM FOR RAY TRACING SUB-SCENES IN AUGMENTED REALITY	December 23, 2018
4218.E81US6	United States of America	16/275,366	METHOD OF FAST INTERSECTIONS IN RAY TRACING UTILIZING HARDWARE GRAPHICS PIPELINE	February 14, 2019

4218.E81US7	United States of America	16/275,371	SYSTEM FOR FAST INTERSECTION IN RAY TRACING	February 14, 2019
4218.E81US8	United States of America	16/275,907	METHOD FOR RENDERING AN AUGMENTED OBJECTS	February 14, 2019
4218.E81US9	United States of America	16/444,464	METHOD FOR FAST GENERATION OF PATH TRACED REFLECTIONS ON A SEMI-REFLECTIVE SURFACE	June 18, 2019
4218.E81US10	United States of America	16/736,848	METHOD FOR FAST GENERATION OF PATH TRACED REFLECTIONS ON A SEMI-REFLECTIVE SURFACE	January 8, 2020
4218.E81US11	United States of America	16/994,615	METHOD FOR FAST GENERATION OF PATH TRACED REFLECTIONS ON A SEMI-REFLECTIVE SURFACE	August 16, 2020
4218.E82PRV	United States of America	62/266,584	LOCALIZATION OF GLOBAL ILLUMINATION	December 12, 2015
4218.E82PV2	United States of America	62/289,927	LOCALIZATION OF GLOBAL ILLUMINATION	February 2, 2016
4218.E83PRV	United States of America	62/354,755	PROJECTION BASED BOUNCING OF SECONDARY RIGS	June 26, 2016
4218.E84PRV	United States of America	62/408,730	PATH TRACING BY SEPARATE TRAJECTORY SYSTEMS	October 15, 2016
4218.E84US1	United States of America	15/376,580	PATH TRACING METHOD IMPLEMENTED ON CELLS AND EMPLOYING DISTRIBUTED ACCELERATION STRUCTURES	December 12, 2016
4218.E85US1	United States of America	15/659,618	SPAWNING SECONDARY RAYS IN RAY TRACING FROM NON PRIMARY RAYS	July 26, 2017
4218.E86US1	United States of America	15/984,359	PATH TRACING METHOD EMPLOYING DISTRIBUTED ACCELERATING STRUCTURES	May 20, 2018
4218.E86US2	United States of America	16/444,431	PATH TRACING SYSTEM EMPLOYING DISTRIBUTED ACCELERATING STRUCTURES	June 18, 2019
4218.E86US3	United States of America	16/788,845	MULTIPROCESSING SYSTEM FOR PATH TRACING OF BIG DATA	February 12, 2020
4218.E86US4	United States of America	17/019,274	MULTIPROCESSING SYSTEM FOR PATH TRACING OF BIG DATA	September 13, 2020
4218.E86US5	United States of America	17/327,690	DISTRIBUTED ACCELERATION STRUCTURES FOR RAY TRACING	May 22, 2021
4218.E87US1	United States of America	16/004,348	FAST PATH TRACED REFLECTIONS FOR AUGMENTED REALITY	June 9, 2018

4218.E87US2	United States of America	16/788,792	SYSTEM FOR FAST REFLECTIONS IN AUGMENTED REALITY	February 12, 2020
4218.E87US3	United States of America	17/175,644	SYSTEM FOR PHOTO-REALISTIC REFLECTIONS IN AUGMENTED REALITY	February 13, 2021
4218.E92PRV	United States of America	62/957,157	RAY TRACED LOOK-AHEAD NAVIGATION IN VIDEO GAMES	January 4, 2020
4218.E92US1	United States of America	16/844,681	METHOD FOR CONSTRUCTING AND TRAVERSING ACCELERATING STRUCTURES	April 9, 2020
4218.E92US2	United States of America	16/874,705	CREATING COHERENT SECONDARY RAYS FOR REFLECTIONS IN HYBRID RAY TRACING	May 15, 2020
4218.E92US3	United States of America	17/019,272	METHOD FOR PHOTOREALISTIC REFLECTIONS IN NON-PLANAR REFLECTIVE SURFACES	September 13, 2020
4218.E92US4	United States of America	17/227,340	COHERENT SECONDARY RAYS FOR REFLECTIONS IN HYBRID RAY TRACING	April 11, 2021
4218.E92US5	United States of America	17/411,637	METHOD FOR CONSTRUCTING AND TRAVERSING ACCELERATING STRUCTURES	August 25, 2021
4218.E92WO1	PCT	PCT/IL2020/051262	REAL-TIME, SOFTWARE-BASED HYBRID RAY TRACING FOR BATTERY-POWERED COMPUTING DEVICES	December 7, 2020
4218.E92CN1	China	202080091828.6	REAL-TIME, SOFTWARE-BASED HYBRID RAY TRACING FOR BATTERY-POWERED COMPUTING DEVICES	December 7, 2020
4218.E92EP1	European Patent Office	20910800.0	REAL-TIME, SOFTWARE-BASED HYBRID RAY TRACING FOR BATTERY-POWERED COMPUTING DEVICES	December 7, 2020
4218.E92KR1	Republic of Korea	10-2022-7027051	REAL-TIME, SOFTWARE-BASED HYBRID RAY TRACING FOR BATTERY-POWERED COMPUTING DEVICES	December 7, 2020
4218.E93CN1	China	201880004190.0	FAST GENERATION OF RAY TRACED REFLECTIONS OF VIRTUAL OBJECTS IN REAL WORLD ENVIRONMENT	May 21, 2018
4218.E93JP1	Japan	2019-521406	FAST GENERATION OF RAY TRACED REFLECTIONS OF VIRTUAL OBJECTS IN REAL WORLD ENVIRONMENT	May 21, 2018
4218.E93WO1	PCT	PCT/IL2018/050549	FAST GENERATION OF RAY TRACED REFLECTIONS OF VIRTUAL OBJECTS IN REAL WORLD ENVIRONMENT	May 21, 2018

4218.E94PRV	United States of America	63/067,881	COHERENT HANDLING OF SECONDARY RAYS IN HYBRID RAY TRACING	August 20, 2020
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Exhibit A

Application #	File #
16662657	4218.E64US1
16909063	4218.E64US2
17183395	4218.E64US3
17654714	4218.E64US4
12978493	4218.E66US1
13448187	4218.E66US2
13726763	4218.E69US1
14173735	4218.E70US1
14311299	4218.E71US1
14479322	4218.E72US1
15009442	4218.E72US2
14479326	4218.E73US1
14479334	4218.E77US1
14479336	4218.E78US1
14585495	4218.E79US1
14868461	4218.E80US1
15615037	4218.E81US1
15640464	4218.E81US2
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16231520	4218.E81US5
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62289927	4218.E82PV2
62354755	4218.E83PRV
62408730	4218.E84PRV
62957157	4218.E92PRV
63067881	4218.E94PRV