

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT6134009

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
JONATHAN SANDERS	03/09/2020
SALEM LEE GANZHORN	01/08/2020
DONALD JOHN ORIORDAN	03/10/2020
YEVGENIA MURAD BEGLARYAN	01/08/2020
LIANA BADALYAN	01/10/2020
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	SYNOPSYS, INC.
<b>Street Address:</b>	690 EAST MIDDLEFIELD ROAD
<b>City:</b>	MOUNTAIN VIEW
<b>State/Country:</b>	CALIFORNIA
<b>Postal Code:</b>	94043
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16215272
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(704)444-1111
<i>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.</i>	
<b>Phone:</b>	6508382000
<b>Email:</b>	Angela.Pham@alston.com
<b>Correspondent Name:</b>	ALSTON & BIRD LLP
<b>Address Line 1:</b>	BANK OF AMERICA PLAZA
<b>Address Line 2:</b>	101 SOUTH TRYON STREET, SUITE 4000
<b>Address Line 4:</b>	CHARLOTTE, NORTH CAROLINA 28280
<b>ATTORNEY DOCKET NUMBER:</b>	063787/523086 (032110US)
<b>NAME OF SUBMITTER:</b>	DANIEL J. O'CONNOR
<b>SIGNATURE:</b>	/Daniel J. O'Connor/
<b>DATE SIGNED:</b>	06/02/2020
<b>Total Attachments: 6</b>	

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## ASSIGNMENT

WHEREAS **Jonathan Sanders**, residing in Mountain View, California; **Salem Lee Ganzhorn**, residing in Apex, North Carolina; **Donald John Oriordan**, residing in Mountain View, California; **Yevgenia Murad Beglaryan**, residing in Yerevan, Armenia; and **Liana Badalyan**, residing in Yerevan, Armenia hereinafter referred to as "Assignors," are the inventors of the invention described and set forth in the below-identified patent application(s):

Title of Invention: Hierarchical Dynamic Heat Maps In Full Custom EDA Applications

U.S. Application No.: 16/215,272

Filing Date: December 10, 2018

WHEREAS, **Synopsys, Inc.**, a corporation incorporated under and pursuant to the laws of Delaware, and having its principal place of business at 690 East Middlefield Road, Mountain View, CA 94043, hereinafter referred to as "Assignee," is desirous of acquiring all of Assignors' right, title, and interest in and to said invention, the right to file applications on said invention, and the right, title and interest in and to any applications, including provisional applications, for Letters Patent of the United States or other countries claiming priority to said applications, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefore and thereon;

NOW, THEREFORE, for good and valuable consideration, receipt of which are hereby acknowledged by Assignors, Assignors have assigned, transferred and set over, and by these presents does assign, transfer and set over unto Assignee, and Assignee's successors, legal representatives, and assigns, all of Assignors' right, title and interest in and to the above-mentioned invention and application, the right to file applications on said invention, and the right, title and interest in and to any such applications, including provisional applications, and any applications claiming priority from said applications for Letters Patent of the United States or other countries (including patent, utility model and industrial designs), and in and to any Letters Patent or Patents of the United States of America and all foreign countries that have been or may be granted therefor and thereon, and in and to any and all divisions, renewals, substitutions, conversions, continuations, and continuations-in-part of said applications, and reissues, prolongations and extensions of said Letters Patent or Patents, and all rights under the Paris Convention for the Protection of Industrial Property, including the right to claim priority, the same to be held and enjoyed by Assignee, for its own use and behalf and the use and behalf of Assignee's successors, legal representatives, and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted as fully and entirely as the same would have been held and enjoyed by Assignors had this Assignment not been made;

AND for the same consideration, Assignors hereby covenant and agree to and with Assignee, its successors, legal representatives, and assigns, that Assignor shall, whenever counsel of Assignee, or the counsel of its successors, legal representatives, and assigns, advises that any proceeding in connection with said invention or said applications for Letters Patent or Patents, or


any proceeding in connection with Letters Patent or Patents for said invention in any country, including interference proceedings, is lawful and desirable, or that any application claiming priority to said application, division, continuation, continuation-in-part, substitution or conversion of any applications for Letters Patent or Patents, or any reissue, prolongation or extension of any Letters Patent or Patents to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent or Patents for said invention, without charge to Assignee, its successors, legal representatives, and assigns, but at the cost and expense of Assignee, its successors, legal representatives, and assigns;

AND Assignors hereby request the Commissioner of Patents to issue any and all said Letters Patent or Patents of the United States to Assignee as the assignee of said invention and the Letters Patent or Patents issued and to be issued thereon for the use and behalf of Assignee, its successors, legal representatives, and assigns;

AND the undersigned hereby grant(s) an authorized representative of Assignee the power to insert in this Assignment the application number and filing date and any further identification that may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

IN TESTIMONY WHEREOF, Assignors have signed their name on the dates indicated.

3-9-2020  
Date

  
Jonathan Sanders

Date

Salem Lee Ganzhorn

Date

Donald John Oriordan

Date

Yevgenia Murad Beglaryan

Date

Liana Badalyan

any proceeding in connection with Letters Patent or Patents for said invention in any country, including interference proceedings, is lawful and desirable, or that any application claiming priority to said application, division, continuation, continuation-in-part, substitution or conversion of any applications for Letters Patent or Patents, or any reissue, prolongation or extension of any Letters Patent or Patents to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent or Patents for said invention, without charge to Assignee, its successors, legal representatives, and assigns, but at the cost and expense of Assignee, its successors, legal representatives, and assigns;

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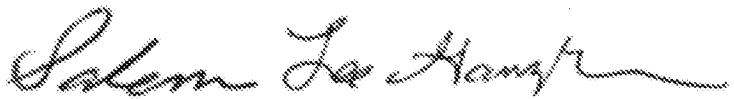
IN TESTIMONY WHEREOF, Assignors have signed their name on the dates indicated.

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Date

1/8/2020

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Date

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Jonathan Sanders



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Salem Lee Ganzhorn

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Date

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Donald John Oriordan

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Date

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Yevgenia Murad Beglaryan

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Date

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Liana Badalyan

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Jonathan Sanders

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Date

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Salem Lee Ganzhorn

07/10/2020  
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Date

  
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Donald John Oriordan

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Yevgenia Murad Beglaryan

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Date

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Liana Badalyan

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Date

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Jonathan Sanders

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Salem Lee Ganzhorn

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Date

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Donald John Oriordan

01/08/2020  
\_\_\_\_\_  
Date

Beglaryan Yevgenia   
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Yevgenia Murad Beglaryan

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Date

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Liana Badalyan

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Yevgenia Murad Beglaryan

01/10/2020  
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Liana Badalyan