

# STATEMENT OF WORK

[TRACEABILITY TOOL]

## **TEAM - 3**

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## **TEAM - 4**

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## **Mentor**

Dr. S. Sivakumar

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## 1.1 Purpose

This Statement of Work effective as of **29<sup>th</sup> September, 2016** is between the MSIT-SE Team 3 and Team 4, student groups with offices located at SSN Institutions, Kalavakkam, Chennai, TN (the “Teams”) and SSK Process Systems Services Pt Ltd with offices located at SSN College of Engineering, Kalavakkam, Chennai TN (the “Client”). The agreement provides an understanding of the conditions and limitations of the project. The Client would like the Teams to conduct a project as described in this Agreement. The teams are interested in conducting the project in support of its educational objectives.

## 1.2 Terms of Agreement

Intending to be legally bound, the Client and Team agree as follows:

1. **Project:** The Team agrees to perform the project described in this Statement of Work unless otherwise noted in future negotiation documents.
2. **Personnel:** The Team comprises of Akkineni Ajay Krishna, Arul Dhana Saam Prakash A, Aishwarya A, Dinesh P, Thejesvini Rachapudi, Sriram S and Aparnaa Raghuraman. Dr. S. Sivakumar will serve as the Mentor to the teams and the Point of Contact from the client organization.
3. **Term:** The term of this Agreement begins as of the Effective Date and ends on 15<sup>th</sup> April, 2017 (End Date), unless it is terminated earlier as allowed under this Agreement or unless the parties both agree in writing to extend it (the Term). During this term, the teams shall work for a total of 2428 man hours to complete the project.
4. **Location:** This project shall be developed at School of Advanced Software Engineering, SSN Institutions, Kalavakkam and deployed in SSN Institutions, Kalavakkam.
5. **Ownership of Project Work Product:**
  - a. *Intellectual Property Definition.* As used in this Agreement, “**Intellectual Property**” means any and all art, method, process, procedure, invention, idea, design, concept, technique, discovery, improvement or moral right, regardless of patentability, as well as any patents, patent applications, copyrights, trademarks, service marks, trade names, trade secrets, knowhow or other intellectual property rights recognized in any country or jurisdiction in the world.
  - b. *Intellectual Property Ownership.* The Client will own any and all work product and/or Intellectual Property developed by the Teams under this Agreement.
6. **Protecting Project Intellectual Property:**
  - a. *Definition.* “**Intellectual Property Protections**” means the registration, application, filing, prosecution or maintenance of a patent, copyright, trademark or other protective measure for Intellectual Property.
  - b. *Jurisdiction of Protection.* The Teams undertakes the sole responsibility for copyright protection, trademark protection, maintenance of the product during the term of this agreement. After this period, this undertaking shall be transferred to the Client.
7. **Terms of Negotiation:**
  - a. The base lining of the functionality shall be discussed at the beginning of every milestone.

- b. Any change in the Statement of Work shall be done only with the consent of the teams, Mentor and the Client.

### 1.3 Business Context

SSK Process Systems Services Private Limited develops software systems for process industries. Some of the typical products produced by this company consist of unit operation simulators (such as pumps, batch and continuous reactors, absorbers, heat exchangers, distillation columns, etc.), thermodynamic packages (properties calculations, VLE calculations), process engineering calculation packages, flow sheet simulators for utilities plant, etc. This company sells customized versions to various customers and maintains the customized versions of their product.

This company now has nearly 50 customers who are traditional small scale chemical industries and captive power plants. It wishes to capture the customers in bio-tech and pharmaceutical domains. This company has an in-house software development team which uses an iterative lifecycle model for development purposes.

### 1.4 Goals

1. **Continuity of business** - To minimize the cost of turn-around. Their resources seem to be spending most of their effort in fixing defects or incorporation minor changes requested by the customers. These are necessary. However, they find that they are spending more than necessary effort. This needs to be minimized so that they can continue to support their existing customers and spend required effort to develop new versions and new products.
2. **Growth of business** - Currently, they are catering to traditional small scale chemical industries such as distilleries, detergents, pesticides etc. They wish to expand their business to capture customers in the bio-tech and pharmaceutical industries. The existing software can be customized to these domains. Hence, they feel they can target these markets. They had already envisioned this in their business plan. Hence, they adapted a product line approach.

### 1.5 Problems faced

1. Unable to continue developing the product lines as resources are spending time in maintenance which is taking more than the planned effort.
  - a. Unable to meet the change requests from the customers on time
  - b. Unable to turn around the defects on time
  - c. As a result, they are also not able to meet the SLA's with our customers
2. Struggling to identify the impact
  - a. Takes a lot of time to identify the affected artifacts
  - b. Need to rely on individuals to identify the artifacts
  - c. More often wrong version of the artifacts is identified
  - d. Build based on the wrong code version goes to the customer
  - e. They feel they need to have appropriate engineering tools

### 1.6 Scope of work

The traceability tool would include the following base line functionalities:

1. The user will have the ability to define a process model using the tool.
2. The user will have the ability to update a process model using the tool.

3. The user will have the ability to restore and backup the entire project traceability using the tool.
4. The user will have the ability to manage user roles using the tool.
5. The user will have the ability to manage traceability linkages using the tool.
6. The user will have the ability to view traceability linkages using the tool.
7. The user will have the ability to generate reports based on traceability using the tool.

## 1.7 Delivery Schedule

Milestones -1	Start Date: 23-08-2016	End Date: 31-10-2016	Number of cycles: 5
Risks Mitigated	Stakeholder Artifacts	Deadline	Key Project Objectives
			Micro-plan for the cycles, Progress tracking sheet, Project estimation
Reduce the risk of changing requirements	Use case description	25-10-2016	Scenarios, Functional requirements, Use case model
Reduce the risk of not satisfying the quality attributes	Architecture document	17-10-2016	QA scenarios and architectural drivers
Reduce the risk of user dissatisfaction by coming up with high fidelity prototypes	Prototype document	17-10-16	Prototypes and wireframes
Reduce the risk of non-familiarity of developers about selected technologies	Integration Plan	31-10-16	
Milestones -2	Start Date: 01-11-16	End Date: 26-12-16	Number of cycle : 4
Risks Mitigated	Stakeholder Artifacts	Deadline	Key Project Objectives
To come to a common consensus	Design document	04-11-16	
Reduce the risk of product being delivered		08-11-16	Environment setup & Kick-off implementation
Reduce the risk of incorrect planning and estimating	Project estimation		
Reduce the risk of not designing the right system confirming to stakeholder requirements	Final architecture document	11-11-2016	Freezing the architecture
To meet customer's requirements	TRACEABILITY TOOL- a. Create Linkage Feature	20-12-16	Iterative project development and unit testing
To meet customer's requirements and provide value	MODEL MANAGER FEATURES DELIVERY- a. Model Definition b. Manage users and roles	26-12-16	Iterative project development and unit testing
Mitigate the risk of not documenting the test cases covering all functionalities of the system	System Test Plan	20-12-16	Iteratively develop the test script

Milestones -3	Start Date: 27-12-16	End Date: 20-02-17	Number of cycles: 4
Risks Mitigated	Stakeholder Artifacts	Deadline	Key Project Objectives
Reduce the number of bugs in the sub-system and work towards producing a quality product.			Micro-plan for the cycles, Progress tracking sheet, Project estimation, Change request planning
To meet customer's requirements	TRACEABILITY TOOL- a. View artifacts b. Generate report	24-01-17	Iterative project development and unit testing
To meet customer's requirements and provide value	MODEL MANAGER FEATURES DELIVERY- a. Update Model b. Restore & Backup models	31-01-17	Iterative project development and unit testing
	System Test Cases	16-01-17	System test script
	Integration Test Cases Script	16-01-17	
		23-01-2017	Unit Testing Complete
		20-02-17	System testing and Bug Fixes Complete
Milestones -4	Start Date: 21-02-17	End Date: 03-04-17	Number of cycles: 4
Risks Mitigated	Stakeholder Artifacts	Deadline	Key Project Objectives
Mitigate the risk of incompatibility issues in the sub-systems by producing an integrated quality product.			Micro-plan for the cycles, Progress tracking sheet, Project estimation, Change request planning
		03-03-17	Integration with Team 3, build and release (in iterative cycles)
		17-03-2017	Integration Test Execution & Bug Fixes Complete
	User manuals	31-03-2017	High priority bug fixes, High priority change requests
		31-03-2017	Deployment

## 1.8 Acceptance Criteria

1. All base lined tool functionalities shall be delivered at the end of the project.
2. The agreed upon artifacts shall be delivered at the end of every milestone.
  - a. Architecture Diagram
  - b. Source code
  - c. User manual

## 1.9 Assumptions

1. The team composition will be 7 members only.
2. Any change in requirements can be added to the project scope only when the project team agrees to it.
3. No new milestones should be expected by the client rather than the one mentioned in the SOW.
4. Stakeholder is available at least once in two weeks for the project team to clarify their doubts regarding their projects.
5. SSK process systems services p ltd. will allow the project team members to conduct interviews with their employees regarding the project.
6. In case of natural calamity, project team would be allowed to re-scope.
7. We have considered 15% of the estimate to constitute for vacations, holidays and backlogs.

## 1.10 Disclaimers

ANY AND ALL INFORMATION, MATERIALS, SERVICES, INTELLECTUAL PROPERTY AND OTHER PROPERTY AND RIGHTS GRANTED AND/OR PROVIDED BY THE TEAMS PURSUANT TO THIS AGREEMENT (INCLUDING THE DELIVERABLES), ARE GRANTED AND/OR PROVIDED ON AN "AS IS" BASIS. THE TEAMS MAKE NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, AS TO ANY MATTER, AND ALL SUCH WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY DISCLAIMED. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, THE TEAMS DO NOT MAKE ANY WARRANTY OF ANY KIND RELATING TO EXCLUSIVITY, INFORMATIONAL CONTENT, ERROR FREE OPERATION, RESULTS TO BE OBTAINED FROM USE, FREEDOM FROM PATENT, TRADEMARK AND COPYRIGHT INFRINGEMENT AND/OR FREEDOM FROM THEFT OF TRADE SECRETS. CLIENT IS PROHIBITED FROM MAKING ANY EXPRESS OR IMPLIED WARRANTY TO ANY THIRD PARTY ON BEHALF OF THE TEAMS RELATING TO ANY MATTER, INCLUDING THE APPLICATION OF OR THE RESULTS TO BE OBTAINED FROM THE INFORMATION, MATERIALS, SERVICES, INTELLECTUAL PROPERTY OR OTHER PROPERTY OR RIGHTS (INCLUDING THE DELIVERABLES) GRANTED AND/OR PROVIDED BY THE TEAMS PURSUANT TO THIS AGREEMENT.

## 1.11 Limitation of Liability

THE TEAMS SHALL NOT BE LIABLE TO THE CLIENT OR ANY THIRD PARTY FOR ANY REASON WHATSOEVER ARISING OUT OF OR RELATING TO THIS AGREEMENT (INCLUDING ANY BREACH OF THIS AGREEMENT) FOR LOSS OF PROFITS OR FOR INCIDENTAL, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES, EVEN IF THE TEAMS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR HAS OR GAINS KNOWLEDGE OF THE EXISTENCE OF SUCH DAMAGES.

## 1.12 Indemnification

The Client shall defend, indemnify and hold harmless the Teams and their members from and against any and all liability, damage, loss or expense incurred by or imposed upon any or all members of the Teams in connection with any claim, suit, action or demand arising out of or relating to any exercise of any right or license granted or provided to Sponsor under this Agreement, including any use of the Deliverables, under any theory of liability (including without limitation, actions in the form of tort, warranty, or strict liability, or violation of any law, and regardless of whether such action has any factual basis).

INTENDING TO BE LEGALLY BOUND, the parties here to have caused this Agreement to be executed by their duly authorized representatives as of the Effective Date.

**SSK Process Systems Services P Ltd**

<i>(Signature)</i>	
<i>(Name)</i>	
<i>(Title)</i>	
<i>(Date)</i>	

**Team-3 Representative**

<i>(Signature)</i>	
<i>(Name)</i>	
<i>(Title)</i>	
<i>(Date)</i>	

**Team-4 Representative**

<i>(Signature)</i>	
<i>(Name)</i>	
<i>(Title)</i>	
<i>(Date)</i>	