Process Line Intersection Check – Perfect Intersections for Symphony Plus Operations

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## Introduction

Engineers involved in designing the graphics for various control system projects have to constantly meet with their customer expectations. A certain degree of perfection is required in every facet of the product being delivered. Modifications may include naming the various objects, performing width based operations or even changing the color of the background. With hundreds of files in each projects, making such changes often involves hours of strenuous work. To avoid the dual problems of making errors and to reduce the effort in correcting them, various software extensions are developed. These tools that help synchronize the work of the humans with the customer requirements while reducing the man hours involved are classified under UI Automation.

One such use case has been observed in Symphony Plus software. A valuable feedback received from clients demanded perfect intersections for Process lines and pipes. Engineers soon figured out the difficulty in the same while doing it manually. The lines on standard view seem to have perfect intersections. A fair amount of zooming in is required before the engineers can actually identify the flaw and correct it. Repeating the procedure for hundreds of lines in dozens of files in each project is a herculean task.

Pipes and Lines Intersection Check tool comes handy for such tasks. It has a simple UI with easy identification and rectification options without taking the control from the designer.

## Business Impact

1. Can be currently used in T1R project where only 1 out of 4 project members is proficient in Japanese language
2. Can reduce approximately 3% of the overall project efforts.
3. Can reap savings out of future projects where Syphmony Plus software is used.

## Advantages

1. Simple and easy to use.
2. Good tool to expand the business opportunities with various LBUs.
3. Can be extended to other applications with similar challenge

## 

## Features

##### Easy Check option

This has a simple check button which marks a circle on all the process lines and pipes which do not intersect.

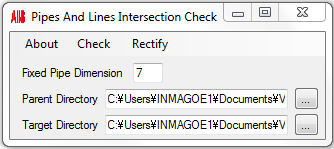
##### Easy Rectification option

This has support for to remove the circles that were added after the user is done with the correction.

##### Easy selection for pipe dimensions

The user can easily select the pipe dimension used in the project and the tool does the identification work.

## How it works



1. The user specifies the pipe dimension and the parent as well as the target directory for the test files.
2. The user is prompted in case of failure to do so.
3. After the user clicks on check, the tool scans through all the UCBG files in the parent folder and copies the file to the target directory.
4. In the background, the tool checks for the line intersections in these UCBG files and marks a circle wherever an intersection was detected to be incomplete.
5. The tool then prompts that the rectification is complete.
6. The user can manually verify and correct the intersections.
7. After saving the modifications, the user can click on the Rectify option.
8. In the background, the tool removes the circles which it had added earlier.
9. The tool then prompts that the rectification is complete.

## Installation

The application has no prerequisites.

## Language

The application has been developed in C# programming language.

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