PROJECT REPORT

Development of python-based software for designing power and distribution transformers

Submitted in partial fulfilment of the requirements for the award of the degree of Bachelor of Engineering in Electrical Engineering of Gauhati University

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This is to certify that the project entitled "**Development of python-based software for designing power and distribution transformers**" has been submitted by the following B.E. 8th Semester students:

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Date: 8/06/2020

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ABSTRACT

Transformers are the most crucial component of our entire grid system. It enables energy transfer to long distances with almost no major losses. Transformers are designed as economic, balanced and energy efficient; based on the requirement. It is the only device in existence that delivers nearly 100% efficiency. As its operating voltage ranges from single digits to thousands of volts, it is very much essential that designs are very accurate and fail safe. Which makes the designing process very difficult and time consuming.

In our project, a study has been carried out on various methods of transformer design on the basis of types and a software has been developed using python tkinter module so as to simplify the task. Tkinter is a Python binding to the Tk GUI (Graphical User Interface) toolkit. It is the standard Python interface to the Tk GUI toolkit, and is Python's de facto standard GUI. The name Tkinter comes from Tk interface. Our software interface imports Tk style mostly but ttk styles are also used for styling buttons and text boxes which provides an elegant look.

The results of the manual design and software design are compared to check the correctness of the design. Several parameters along with the detailed discussion are considered to prove the accuracy of the proposed method.

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