The Impact of Digital Development of parametric design on designing Architectural Ceramics units

Prof. Dr. ayman Ali Gouda
Professor of ceramics Department - faculty of Applied Arts- Helwan University
Assist. Prof. Dr. Ahmed Hosney Radwan
Assistant Professor of Architecture and Urban Design - Faculty of Fine Arts-Helwan university
Assist. Dr. Shereen Elsaid Alarnous
Teaching Assistant of Ceramics Department –Applied Arts faculty- Helwan University
shereenalarnous@gmail.com

Abstract:

Parametric design is one of the research topics that provide the building of communication between design and production. Here we are using Parametric design as one of the products of digital technology in the development of architectural ceramic design system by utilizing modern digital technologies to establish a parametric model for ceramic architectural units.

After it became easier to analyze topical forms and masses mathematically, many new ideas emerged that volunteered the irregular surfaces Nurbs to help form unique design ideas and always and designers will always remain in a state of constant research and passion to explore new forms and bodies using generative algorithm

It is understood that the construction of free architecture through the ages was rather expensive and was being done for the purpose of creating iconic buildings and there was a strong need to adopt a methodology and design tool that makes the design and construction of this type of buildings with unique free forms and modification It is a smooth and time-saving effort and by clarifying the importance of the role of information technology on the design process, this role did not stop at the design process, but continued to the process of production and digital manufacturing.

Research problem:

• What is the impact of technological development on the parametric design approach and its effect on the design and production of architectural ceramic units?

research importance:

Try to develop a system for the development of ceramic architectural design more flexible and more sophisticated away from the limitations of design and production of traditional ceramics.

Research Methodology:

• An analytical approach to study the impact of digital technology on the parametric design approach

• An experimental approach by attempting to conceptualize the design and production of ceramic architectural units using the parametric design approach

DOI: 10.12816/mjaf.2019.16667.1315

research results:

• Like other materials, ceramics are highly influenced by the methods of production and manufacture as a natural result of the development of digital technology

• Open new horizons and different perceptions of the use of ceramics in architectural vocabulary, both internal and external

Keywords:

Architectural design; Ceramics; Parametric design; Ceramic units.