The Re-designed Lego

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Abstract

Our team's goal is to redesign and improve upon the Lego brick. We believe that Legos are an incredible outlet for creativity for all ages, but as builders grow older and more experienced with Lego construction the complexity that stimulates the creative mind begins to dwindle. To remedy this issue, we re-designed traditional Lego bricks to have stronger links between pieces as well as greater constructive maneuverability. Our improved Lego aims to benefit the community of Lego enthusiasts that create grand complex structures. The new Lego allows for more defined features in large builds and greater structural integrity in all sizes of creations. To improve the Lego our team redesigned the cylindrical fit that links most all Lego pieces, using Catia (a CAD software). We replaced the simple cylindrical fitting with, instead, a much stronger ball and socket joint fit. In considering several possible ways to apply this improvement, our team decided to design and create several prototypes. To continue the progress we have made on this project we plan to 3-D print and test each piece to see which design is superior and to validate theorized design advantages. For instance in theory all re-designed parts are compatible with one another as well as the original Lego bricks. Along with qualitative testing we hope to compare cost effectiveness in production of this new Lego brick and original Lego brick to further evaluate our proposed improvement.