Please refer to the comments whilst undertaking your revision. Submission of your amended paper should include:  
  
(i) the manuscript and associated graphics files, etc. (if any) as source files e.g. LaTeX or Word, i.e. please allow EM to generate the pdf  
(ii) a list of your responses to the points raised by the reviewers. Please write a clear rejoinder with both responses to the comments and pointers to actual changes in the paper, where appropriate.  
  
I would appreciate if you could submit your revised paper by May 16, 2023. Please inform us whether you intend to revise the article or not.  
  
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When submitting your revised paper, we ask that you include the following items:  
  
Response to Reviewers (mandatory)  
  
This should be a separate file labeled "Response to Reviewers" that carefully addresses, point-by-point, the issues raised in the comments appended below. You should also include a suitable rebuttal to any specific request for change that you have not made. Mention the page, paragraph, and line number of any revisions that are made.  
  
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Yours sincerely

Miroslaw Staron, Ph.D  
Information and Software Technology

**Editor and Reviewer comments**

***(With the Author's Revision notes)***

**General comments**

Their general opinion is that after a revision addressing the reviewer's comments and after performing another round of peer evaluation, the manuscript could form a valuable contribution to the Journal.  
  
**1. Reviewer 3: = Review IST 22-00490-R1**

=== General remarks  
In this new version, the authors answered to most of my remarks.  
  
- There are too many writing errors, making the paper unnecessarily hard to read.  
- Sections 7 and 8 still need to improved, despite the changes.  
  
Section 7 is much better now, but it still lacks some technical details. Two of my questions remain unanswered:  
  
- How annotations are inserted into Java or C# code?  
- What is the input format?  
  
Section 8 was also improved, I appreciate that the research questions are clearly stated.  
However, it is confusing at some points:  
  
**First,** why do you separate the UML activity diagram from the UML class diagram?  
They represent the same model and are strongly connected to each other.  
Moreover, you say that "it lacks a mechanism to compose the behavioral diagrams with other structural diagrams", which is not true, since all UML diagrams are linked. Maybe I misunderstand the meaning of "mechanism to compose".  
  
**Second,** Table 3B should be better explained. For instance, you explain that ApacheIsis supports 4 out of 8 properties of the domain field pattern, but you do not explain these properties and neither why ApacheIsis cannot represent them.  
You should provide examples of each language to illustrate your claims.  
we would refer the reader to Appendix D (Comparing to DDD frameworks) of the technical report [27] for this paper  
=== Other remarks  
  
- In section 2.4, you explain that you need a mechanism "to maintain consistency between the two models". Which models?  
- In section 6.1, you talk about "UML activity graph requirements". Could you be more precise about this requirements?  
- In this same section, you explain that "variable is an alternative to object flows". Could you explain?  
  
== Minor remarks  
  
- "work" is un uncountable noun, like "software" or "information".  
  
=== Introduction  
  
- "which both thoroughly captures" -> "which thoroughly captures"  
- "Recent works in DDD [2, 3] proposed annotation-based" -> "Recent work in DDD [2, 3] propose annotation-based"  
- "We aim to define an extension of domain model" -> "We aim to define an extension of the domain model"  
- " the software at higher level" -> " the software at a higher level"  
- "As a first step to get over this point is we define" -> "As a first step to get over this point, we define"  
- "with a language support" -> "with language support"  
- "behavior aspects" -> "behavioral aspects" (several times)  
  
=== Section 2  
  
- "Two main features of DDD is that (1)" -> "The two main features of DDD are: (1)"  
- "that are expressed in a so-called the ubiquitous language" -> "that are expressed in a ubiquitous language"  
- "Our previous works [8, 15] proposed a variant" -> "Our previous work [8, 15] propose a variant"  
- "Meta-concept Associative Field represents Domain Field" -> "Meta-concept Associative Field represents the Domain Field"  
- "Finally, meta-concept Domain Method is composed of Method and" -> "Finally, the meta-concept Domain Method is composed of a Method and"  
- "to maintain a consistency between" -> "to maintain consistency between"  
- "Figure 3 shows an essential domain model for CourseMan, that is represented by a UML class diagram" -> "Figure 3 shows an essential domain model for CourseMan, which is represented by a UML class diagram"  
  
=== Section 3  
  
- "First, we take as input domain requirements that are captured by" -> "First, we take as input domain requirements which are captured by"  
- "We then aim to represent such input domain requirements as a composition of a DCSL model for a so-called unified model and an AGL model to represent domain behaviors." -> This sentence should be rephrased  
- "For the latter one (the AGL model)," -> "For the AGL model,"  
- "referred to as a so-called activity class" -> "referred to as an activity class"  
- "(coordinating a collaboration among moudules)" -> "(coordinating collaboration among modules)"  
- "Domain behaviors are specified using UML Activity diagram" -> "Domain behaviors are specified using the UML Activity diagram"  
  
=== Section 4  
  
- "characterised" -> "characterized"  
- " This ASE consists in a sequence" -> " This ASE consists of a sequence"  
- "so that interested listeners of this event can handle" -> "so that interested listeners of this event can handle it"  
  
=== Section 5  
  
- "that could be captured at a high-level description using an UML activity diagram together with domain-model based statements" -> "that could be captured at a high-level description using an UML activity diagram together with domain-model based statements"  
- "The first catalog of domain behavior patterns is defined corresponding to" -> "The first catalog of domain behavior patterns is defined as corresponding to"  
- "For brevity, we will omit" -> "For brevity, we omit"  
- "We would illustrate each pattern" -> "We illustrate each pattern"  
- "The third and fourth ANodes represent the two decision cases: the first results in creating a new C1 object for the specified Cd object, the second," -> "The third and fourth ANodes represent the two decision cases: the first results in creating a new C1 object for the specified Cd object, and the second,"  
- "It uses two variables k and kout, both are dependent on Ck. " -> ". It uses two variables k and kout, which are both dependent on Ck. "  
- "To obtain a concrete AGL specification when applying a domain behavior pattern, basically, we proceed three main steps as follows:" -> "To obtain a concrete AGL specification when applying a domain behavior pattern, we follow three main steps:"  
- "The reference from ANodes to domain classes (expressed with the keywords refCls and outCles) provide" -> "The reference from ANodes to domain classes (expressed with the keywords refCls and outCles) provides"  
- "keywork" -> "keyword"  
- "of an activity of the domain" -> "of a domain activity"  
  
=== Section 6  
  
"This section briefly specify" -> "This section briefly specifies"  
- "(R2) value specification [5, p. 374]) is only applied to decision node;" -> "(R2) value specification [5, p. 374]) is only applied to decision nodes;"  
- "(X1) using variable with activity ( [5, p. 417]); (X2) variable action [5, p. 467]; (X3) activity edge [5, p. 373] is without guards." -> Please rephrase using articles (remove: is without guards)  
- "According to the UML specification, variable is an alternative to using object flow." -> "According to the UML specification, a variable is an alternative to using object flow. "  
- "In this figure the entire AGL specification" -> "In this figure, the entire AGL specification"  
- "Attribute label realizes the node label." -> "Attribute label represents the node label."  
  
=== Section 7  
  
- "with a focus on explaining main design" -> "with a focus on explaining the main design"  
- "In order to obtain an OrderMan software" -> "To obtain the OrderMan software "  
- "jdomainapp" -> "Jdomainapp"  
- "java" -> "Java"  
- "organising" -> "organizing"  
  
=== Section 8  
  
- "as a domain-specifying language" -> "as a domain-specific language"  
- "expressiveness: the extend" -> "expressiveness: the extent"  
- "constructiability: the extend" -> "constructibility: the extent"  
- "in an piecewise" -> "in a piecewise"  
- "perform on representing" -> "perform in representing" (2x)  
- "How much effort is required to define unified domain model in AGL+ for generating a DDD software?" -> "How much effort is required to define a unified domain model in AGL+ for generating DDD software?" (2x)  
- "based on UML Class diagram" -> "based on the UML Class diagram"  
- "The last pattern could be realized by UML Activity diagram" -> "The last pattern could be represented in the UML Activity diagram"  
- "AGL's RCL" -> did you mean "RLC" ?

We cannot compare the required level of coding of AGL (AGL's RLC) with other languages  
  
=== Section 9  
  
- "that were discussed in Section 11" -> "that is discussed in Section 11"  
- "specifciation" -> "specification"  
  
**2. Reviewer 4:**

The authors have greatly improved their paper compared to the initial version. I am satisfied with the changes and recommend accepting the paper.  
  
The only relevant issue is that I could not access the accompanying technical report at <https://tinyurl.com/AGLTechnical>, the authors should make sure that the provided URL is correct. A final proofreading is also recommended to fix the (few) remaining language issues.  
  
- Page 2: to get over this point is we ---- to get over this point, we  
  
- In Figure 2, attribute Student.name is assigned optional=false, but the text mentions that this attribute is optional. It is a bit confusing.  
🡪Domain field Student.name is illustrated with an DAttr element which states that it is not optional domain field (DAttr.optional = false)  
- Page 8: an unified ---- a unified  
  
- Page 20: the extend ---- the extent  
  
- Page 20: constructiability ---- constructability  
  
- Page 20: an piecewise ---- a piecewise  
  
- In the first paragraph of Section 9, do not mention reliability, as it is not discussed in the subsequent subsections.  
  
- Page 24: lead to unsatisfactory. ---- lead to an unsatisfactory model.  
  
- Page 24: allowing combined the class model ---- allowing combining the class model  
  
- Page 24: specification ---- specification  
  
- Page 26: to incorporates ---- to incorporate