The FSTP Test –
Its Mathematical Assesment of an ETCI's Practical and SPL Quality

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◆Mathematical modeling is a reliable basis for developing a precise and robust Claim Interpretation and Claim Construction being in accordance with SPL for a Claimed Invention.

◆For ETCIs it is impossible to find a rational solution without mathematical modeling.

◆Mathematical structures: (finite) first order logics, sets, relations, maps, subdivision, composition, elementary computations.

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Mathematics for CIs?

◆ Disaggregation into elementary (or atomic) items is an important procedure to develop a more precise idea what a claimed invention is about.

◆Two kinds of quantification:

◆ SPL, initially represented by 35 U.S.C., sections 101, 102, 103 and 112 and relevant precedents,

◆ the given ETCI represented by its technical teaching TT0 and its application.

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Disaggregation of SPL

◆ SPL, 35 U.S.C

◆ §§ 101, 102, 103, 112 and relevant precedents

◆ Disaggregation into 9 elementary concerns. (see the next presentation)

◆ 9 single tests of the FSTP-Test

◆ System of axioms suitable for deciding on the patent eligibility and the patentability of an ECTI.

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Disaggregation of SPL

◆The relations between all items developed in this context are stored in a graph.

◆ Addition of MUIs (Marked Up Items) relating parts of original texts of SPL with single concerns/tests.

◆ Leads to further extension of the graph, later on also to all notional items for the disaggregated ETCI.

◆ Basis development of LACs (Legal Argumentation Chains).

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Inventive concepts

◆The basic entities for describing an ECTI: should be **inventive concepts** (US Supreme Court's Mayo decision).

◆ Capture the elementary inventive or creative thoughts of the inventor as far as they can be seen from the specification of the ECTI.

◆Two parts,

　◆ creative part, - the subject matter or the property they are dealing with, and

　◆ legal part, - a justification that they are in accordance with SPL.

6

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Inventive concepts

◆ The creative part, appears in two forms, which are tightly connected with or mirroring each other:

◆An attribute or predicate, describing the property dealt with, and

◆a set taken as subject matter from the underlying model and being the truth set of the predicate.

◆This has to be related with a set of MUIs in the original document, showing where this concept has been disclosed.

7

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◆The development of the inventive concepts is based on a transformation:

◆ decomposing the elements resp. aggregated predicates / concepts (A-crC) with compound truth sets,

◆ into elementary predicates / concepts (E-crC),

◆ and recomposing the compound predicates /truth sets as conjunctions of elementary predicates / truth sets.

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Concepts and KRT

◆This procedure on the previous slide has to be stable on the way forth and back.

◆That the conjunction of the A-concepts and consequently that of the E-concepts has to provide a complete description of the ETCI is one of the requirements of the FSTP-Test.

◆The MUIs for the E-concepts may be inherited by the A-concepts. There may be additional MUIs for the A-concepts.

◆ Extended relational graph

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Mathematics for further FSTP notions

◆Independency of sets of E-concepts

◆Comparison with prior art (anticipation/non-anticipation matrix), creative height.

◆Scope (chains of elements of truth sets related with embodiments of the ETCI), violation in terms of scope.

◆ Detecting preemption, taming preemption by application. abstract ideas, natural laws and etc.

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Thank you for your attention

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