PROJECT FLOWCHART

	Year 1 (June 2022-May 2023)				Year 2 (June 2023-May 2024)				Year3 (June 2024-May 2025)				Year 4 (June 2025-May 2026)			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
WP1 - Program Synthesis via Classical Provers																
Task A.1																
Task A.2																
Task A.3																
Task A.4																
Task A.5																
WP2 - A Program Synthesis System for Vampire																
Task B.1																
Task B.2																
Task B.3																
Task B.4																
Milestones																
M1																
M2																
M3																
M.4																

Short description of Tasks

Task A.1: Designing a calculus with control structures suitable for program extraction from Vampire proofs
Task A.2: Establishing under what conditions non-constructive applications of control structures can be eliminated
Task A.3: Collecting characterizations of specifications for which constructiveness of the extracted program can be guaranteed
Task A.4: Examining transformation procedures for input specifications
Task A.5: Evaluating the applicability, robustness and potential shortcomings of the developed mechanisms
Task B.1: Implementing the findings of WP1 into a software system
Task B.2: Utilizing syntactic context for improved proof search
Task B.3: Extending the system to restricted specifications, e.g. input/output pairs
Task B.4: Extensive testing and benchmarking

Staff:

Florian Zuleger (PI)
PhD1 (Alexander Pluska, 48 months)
PhD2 (N.N., 48 months)

Milestones:

M1: Extraction of constructive programs from classical proofs
M2: Classical provers for program synthesis via modified specifications
M3: Fully working implementation of theoretical findings
M4: A usable system for program synthesis built on top of the Vampire theorem prover

Workplan:

The PI Florian Zuleger will be involved in all tasks and lead A.5, B.1, B.4
PhD1 will lead tasks A.1, A.2, B.2 and be involved in A.5,B.1,B.4
PhD2 will lead tasks A.3, A.4, B.3 and be involved in A.1,A.5,B.1,B.4