Computer Science Research Reports

The following is a list of research reports produced by the Department as of September 1996. There is a charge of £1 for each report unless we have a reciprocal arrangement with your department. There is however a charge of £5 for PhD theses which are starred (*). A list of previous reports or copies of the undernoted reports can be obtained by writing to:

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Computer Science Division
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St Andrews
Fife KY16 9SS, Scotland

CS/90/1 An ad hoc approach to the implementation of polymorphism
Morrison, R., Dearle, A., Connor, R.C.H., Brown, A.L.

CS/90/2 Addressing Mechanisms for Large Virtual Memories
Rosenberg, J., Keedy, J.L., Abramson, D.

CS/90/3 Type Systems and Database Programming Languages
Albano, A., Brown, A.L., Dearle, A., Connor, R., Fegaras, L., Ghelli, G., Hull, R., Marlin, C., Matthes, F., Morrison, R., Orsini, R., Schmidt, J.W., Sheard, T., Stemple, D.

CS/90/4 Existentially Quantified Types as a Database Viewing Mechanism
Connor, R., Dearle, A., Morrison, R., Brown, A.L.

CS/90/5 Distributed Optimistic Concurrency Control in a Persistent Object Store
Livesey, M.J. (This paper is now superseded by CS/90/11)

CS/90/6 Stability in a Persistent Store Based on a Large Virtual Memory
Rosenberg, J., Henskens, F., Brown, A.L., Morrison, R., Munro, D.

CS/90/7 Protection in Persistent Object Systems
Morrison, R., Brown, A.L., Connor, R.C.H., Cutts, Q.I., Dearle, A., Kirby, G., Rosenberg, J., Stemple, D.

CS/90/8 A Layered Persistent Architecture for Napier88
Brown, A.L., Dearle, A., Morrison, R., Munro, D.S., Rosenberg, J.

CS/90/9 Stability in a Network on MONADS-PC Computers
Henskens, F.A., Rosenberg, J., Hannaford, M.R.

CS/90/10 A Method for Self-Determination of Adaptive Learning Rates in Back-Propagation
Weir, M.K.

CS/90/11 Distributed Varimistic Concurrency Control in a Persistent Object Store
Livesey, M.J. (This paper supersedes CS/90/5)

CS/90/12 Training and Generalisation Using Continuous Back-Propagation
Weir, M.K., Chen, Li H.

CS/90/13 Clamping in Boltzmann Machines
Livesey, M.J.

CS/90/14 Statically Typed Applicative Persistent Language Environment (STAPLE) Users' Manual
Davie, A.J.T., McNally, D.J.

CS/90/15 Persistent Object Stores: An Implementation Technique
Brown, A.L., Rosenberg, J.

CS/90/16 An Adaptive Graphical Browser for Napier88
Kirby, G.N.C., Dearle, A.

CS/90/17 WIN Programmers' Manual
Cutts, Q., Dearle, A., Kirby, G.

CS/90/18 A Network Model of Barrier Synchronisation Algorithms
Livesey, M.J.

CS/90/19 CASE - A Lazy Version of an SECD Machine with a Flat Environment (Revised Report)
Davie, A.J.T., McNally, D.J.

CS/91/1 Two Models for Integrating Persistence and Lazy Functional Languages
McNally, D.J., Davie, A.J.T.

CS/91/2 A Generic Persistent Object Store
Brown, A.L., Morrison, R.

CS/91/3 * Types and Polymorphism in Persistent Programming Systems
R.C.H. Connor

CS/91/4 A Development Environment and Testbed for Embedded Transputer Systems
Livesey, M.J., Allison, C., Burgess, P.

CS/91/5 Contraction-Free Sequent Calculi for Intuitionistic Logic
R.Dyckhoff

CS/91/6 Type Equivalence Checking in Persistent Object Systems
Connor, R.C.H., Brown, A.L., Cutts, Q.I., Dearle, A., Morrison, R., Rosenberg, J.

CS/91/7 Subtyping and Assignment in Database Programming Languages
Connor, R., McNally, D., Morrison, R.

CS/91/8 Persistent Programming with Strongly Typed Linguistic Reflection
Kirby, G.N.C.

CS/91/9 An Open System Architecture for a Persistent Object Store
Brown, A.L., Mainetto, G., Matthes, F., Mueller, R., McNally, D.J.

CS/91/10 Subtyping Without Tears
Connor, R., Morrison, R.

CS/91/11 Specifying Flexible Concurrency Control Schemes: an Abstract Operational Approach
Stemple, D., Morrison, R.

CS/92/1 A General Purpose Time Warp Toolkit
Livesey, M.J., Allison, C.

CS/92/2 Parallel Functional Computation on STAR:DUST
Ostheimer, G.

CS/92/3 An Event Based Programming Model and Harness for Embedded Transputer Systems Development
Burgess, P., Livesey, M.J., Allison, C.

CS/92/4 Operating System Support for Coherence in Distributed Systems
Livesey, M.J., Allison, C.

CS/92/5 An Integrated Model for Persistent Lazy Functional Programming
Brown, A.L., Davie, A.J.T., McNally, D.J.

CS/92/6 Type-Safe Linguistic Reflection: A Generator Technology
Stemple, D., Stanton, R.B., Sheard, T., Philbrow, P., Morrison, R., Kirby, G.N.C., Fegaras, L., Cooper, R.L., Connor, R.C.H., Atkinson, M.P., Alagic, S.

CS/92/7 PCASE - A Persistent Lazy Version of an SECD Machine
Davie, A.J.T., McNally, D.J.

CS/92/8 An initial specification of data structures and functions in the St Andrews' Haskell compiler
Paterson, N.R., Davie, A.J.T.

CS/92/9 Persistent Hyper-Programs
Kirby, G.N.C., Connor, R.C.H., Cutts, Q.I., Morrison, R., Dearle, A., Farkas, A.M.

CS/92/10 Persistent Program Construction through Browsing and User Gesture with some Typing
Farkas, A., Dearle, A., Kirby, G., Cutts, Q., Morrison, R., Connor, R.

CS/92/11 Using Continued Fractions for Dynamic Subtype Checking in Name Equivalence Single Inheritance Object-Oriented Databases
Morrison, R., England, A., Connor, R.C.H., Atkinson, M.P., Barneva, S., Rabitti, F., Zezula, P.

CS/92/12 Mechanisms for Controlling Evolution in Persistent Object Systems
Morrison, R. Connor, R.C.H., Cutts, Q.I., Kirby, G., Stemple, D.

CS/92/13 An Application Architecture Using Type-Safe Incremental Linking
Dearle, A., Cutts, Q., Connor, R.

CS/92/14 Serialisability in Distributed Multiprocessors
Livesey, M., Moses, M.

CS/92/15 Strict Serialisability is NP-Complete
Livesey, M., Moses, M.

CS/92/16 A Note on Serialisability and Integrity Constraints in Databases
Livesey, M., Moses, M.

CS/92/17 The order types of termination orderings on terms, strings and multisets
Martin, U., Scott, E.

CS/93/1 Automated Conversion of Structure Types in a Heap
Burgess, P., Livesey, M.J.

CS/93/2 Weights for Total Division Orderings on Strings
Scott, E.A.

CS/93/3 * Reflection and Hyper-Programming in Persistent Programming Systems
Kirby, G.N.C.

CS/93/4* Delivering the Benefits of Persistence to System Construction and Execution
Cutts, Q.I.

CS/93/5 The Implementation of a Hyper-Programming System
Kirby, G.N.C., Cutts, Q.I., Connor, R.C.H., Morrison, R.

CS/93/6 Integrating Reflection, Strong Typing and Static Checking
Stemple, D., Morrison, R., Kirby, G.N.C., Connor, R.C.H.

CS/93/7 Linear interpretations by counting patterns
Martin, U.

CS/93/8* Parallel Functional Programming for Message-Passing Multiprocessors
Ostheimer, G.

CS/93/9* Models for Persistence in Lazy Functional Programming Systems
McNally, D.

CS/93/10 Approaching Integration in Software Environments
Morrison, R., Baker, C., Connor, R.C.H., Cutts, Q.I., Kirby, G.N.C.

CS/93/11 A Note on Consistency in Asynchronous Multicaches
Livesey, M.J.

CS/93/12 A Neural Implementation of Mitchell's Concept and Version Spaces Technique
Weir, M.K., Polhill, J.G.

CS/93/13 On the diversity of orderings on strings
Martin, U. (This paper is now superseded by CS/94/6)

CS/93/14 π-Calculus Characterizations of Some Practical λ-Calculus Reduction Strategies
Ostheimer, G.K., Davie, A.J.T.

CS/93/15 The Napier88 Reference Manual (Release 2.0)
Morrison, R., Brown, A.L., Connor, R.C.H., Cutts, Q.I., Dearle, A., Kirby, G.N.C., Munro, D.S.

CS/93/16 Cut-Formulae and Logic Programming
Pinto, L.

CS/94/1* On the Integration of Concurrency, Distribution and Persistence
Munro, D.S.

CS/94/2 A Dynamically Configurable Co-processor for Microkernels
Livesey, M.J., Allison, C.

CS/94/3 Verification Techniques for LOTOS
Martin, U., Thomas, M.

CS/94/4 Verification Techniques for LOTOS [ISO:8807] specifications (Final report)
Martin, U.

CS/94/5 Solving ordering constraints for strings
Martin, U., Scott, E.A.

CS/94/6 On the diversity of orderings on strings
Martin, U.

CS/94/7 The Napier88 Standard Library Reference Manual (Version 2.2)
Kirby, G.N.C., Brown, A.L., Connor, R.C.H., Cutts, Q.I., Dearle, A., Moore, V., Morrison, R., Munro, D.S.

CS/94/8 The Napier88 Reference Manual (Release 2.0)
Morrison, R., Brown, A.L., Connor, R.C.H., Cutts, Q.I., Dearle, A., Kirby, G.N.C., Munro, D.S.

CS/94/9 * A Testbed for Embedded Systems
Burgess, P.

CS/94/10 Implementing Mitchell's Concept and Version Spaces Technique in Neural Networks using Weight Space Angle as the Partial Order Analogue
Weir, M.K., Polhill, J.G.

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CS/94/1*	On the Integration of Concurrency, Distribution and Persistence Munro, D.S.
CS/94/2	A Dynamically Configurable Co-processor for Microkernels Livesey, M.J., Allison, C.
CS/94/3	Verification Techniques for LOTOS Martin, U., Thomas, M.
CS/94/4	Verification Techniques for LOTOS [ISO:8807] specifications (Final report) Martin, U.
CS/94/5	Solving ordering constraints for strings Martin, U., Scott, E.A.
CS/94/6	On the diversity of orderings on strings Martin, U.
CS/94/7	The Napier88 Standard Library Reference Manual (Version 2.2) Kirby, G.N.C., Brown, A.L., Connor, R.C.H., Cutts, Q.I., Dearle, A., Moore, V., Morrison, R., Munro, D.S.
CS/94/8	The Napier88 Reference Manual (Release 2.0) Morrison, R., Brown, A.L., Connor, R.C.H., Cutts, Q.I., Dearle, A., Kirby, G.N.C., Munro, D.S.
CS/94/9 *	A Testbed for Embedded Systems Burgess, P.
CS/94/10	Implementing Mitchell's Concept and Version Spaces Technique in Neural Networks using Weight Space Angle as the Partial Order Analogue Weir, M.K., Polhill, J.G.
CS/94/11	Load Bounding for Implicit Parallelism Ostheimer, G.K., Davie, A.J.T.

CS/94/12 Testbed v1.1 User Guide and Reference
Burgess, P.

CS/94/13 Background Debugging for Embedded Systems - A Case Study
Burgess, P., Livesey, M.J., Allison, C.

CS/94/14 Some Group Theoretic Examples with Completion Theorem Provers
Linton, S., Shand, D.

CS/94/15 Termination invariants for string rewriting systems
Martin, U.

CS/95/1 MaStA - An I/O Cost Model for Database Crash Recovery Mechanisms
Scheuerl, S., Connor, R.C.H., Morrison, R., Moss, J.E.B., Munro, D.

CS/95/2 Process Semantics of Graph Reduction
Brock, S., Ostheimer, G.

CS/95/3 * Implementation of the programming language Haskell
Paterson, N. (MSc Thesis, revised March 1994)

CS/95/4 The MaStA I/O Trace Format
Scheuerl, S.J.G., Connor, R.C.H., Morrison, R., Moss, J.E.B., Munro, D.S.

CS/96/1 The p-modular Descent Algebras of the Hyperoctahedral Group and Dihedral Group
van Willigenburg, S.J.

CS/96/2 The p-modular Descent Algebra of the Symmetric Group
van Willigenburg, S.J., Atkinson, M.D.

CS/96/3 Theorem proving with group presentations: examples and questions
Martin, U.

CS/96/4 New directions for syntactic termination orderings
Martin, U.

CS/96/5 Meta-Theory in the Higher-Order Logic Framework *Isabelle*
Adams, A.A.

CS/96/6 Bounded Capacity Priority Queues
Atkinson, M.D., Tulley, D.

CS/96/7 Permutations generated by token passing in graphs
Atkinson, M.D., Livesey, M.J., Tulley, D.

CS/96/8 Implementation of a loop-free method for construction of counter-models for intuitionistic propositional logic
Dyckhoff, R., Pinto, L.

CS/96/9 A permutation-free sequent calculus for intuitionistic logic
Dyckhoff, R., Pinto, L.

CS/96/10 Using Reflection to Support Type-Safe Evolution in Persistent Systems
Kirby, G.N.C., Connor, R.C.H., Morrison, R., Stemple, D.

CS/96/11 On Group Theory and Theorem Proving
Linton, S.A., Martin, U., Pröhle, P., Shand, D.D.

CS/96/12 Theorem Proving and Partial Proof Search for Intuitionistic Propositional Logic Using a Permutation-free Calculus with Loop Checking
Howe, J.

CS/97/1 Meta-theory of Sequent-Style Calculi in Coq
Adams, A.A.

CS/97/2 Algebraic Applications of Automated Reasoning Techniques, Final Report, March 1997
Atkinson, M.D., Martin, U., Robertson, E.F.

CS/97/3 * Proof Diagrams and Term Rewriting with Applications to Computational Algebra
Shand, D.

CS/97/4 Flask: An Architecture Supporting Concurrent Distributed Persistent Applications
Kirby, G.N.C., Connor, R.C.H., Cutts, Q.I., Morrison, R. Munro, D.S., Scheuerl, S.

CS/97/5 Evolving Database Systems: A Persistent View
Kirby, G.N.C., Morrison, R., Connor, R.C.H., Zdonik, S.B.

CS/97/6 Orthogonal Persistence as an Implementation Platform for Software Development Environments
Kirby, G.N.C., Morrison, R.

CS/97/7 Permutability of proofs in intuitionistic sequent calculi
Dyckhoff, R., Pinto, L.

CS/97/8 Dragalin's proofs of cut-admissibility for the intuitionistic sequent calculi **G3i** and **G3′** .
Dyckhoff, R.

CS/97/9* The Descent Algebras of Coxeter Groups
van Willigenburg, S.

CS/98/1 A Permutation-free Calculus for Lax Logic
Howe, J.

CS/98/2 Proof Diagrams and Computer Generated Proofs
Shand, D D

CS/98/3 Generalisation for Fisher's Iris problem using Neural BiDirectional Convergence.
Weir, M K.

CS/98/4 A comparison of back-propagation and conjugate gradient descent for Neural BiDirectional Convergence.
Weir, M K.

CS/98/5 The classification of polynomial orderings on monadic terms.
Cropper, N., Martin, U.

CS/98/6 Invariants, patterns and weights for ordering terms.
Martin, U., Shand, D.

CS/98/7 Computers, reasoning and mathematical practice
Martin, U.

CS/99/1* Proof Search Issues in Some Non-Classical Logics
Howe, J M.

CS/99/2 Automaton Semigroups: some remarks and an application.
Cutting, A., Solomon, A.

CS/99/3 A Verifiable Lookup Table for Symbolic Definite Integrals.
Adams, A.A., Gottliebsen, H., Linton, S.A., Martin, U.

CS/99/4 Conservativity of apartness over equality, revisited
Negri, S.

CS/00/1 Automated Reasoning with Analytic Tableaux and Related Methods,Tableaux 2000
Dyckhoff, R

CS/00/2* Towards Simplification of the Software Development Process
The Hyper-Code Abstraction
Zirintsis, E