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# *System Specifications*

# APPENDIX A2

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## *A2.1 Hardware*

Following is a list of the computers used to run the Gandalf system, and which piece of software each one ran.

Perception & decisionmaking (Ymir Alpha):

- Model: Dec Alpha 3000 Model 300 AXP
- CPU: DECAlpha 21064, 64 bit RISC microprocessor
- Clock speed: 150 MHz
- Memory: 64 Mb RAM

Motor Scheduler (Ymir Alpha):

- Model: Dec 5000 Model 240
- CPU: R34000 CISC microprocessor
- Clock speed: 40 MHz
- Memory: 40 MB RAM

HARK speech recognition:

- Model: SGI Iris Indigo
- CPU: IRIS Indigo R4000 CISC microprocessor
- Clock speed: 100 MHz
- Memory: 40 MB RAM

Intonation:

- Model: Macintosh Quadra 950
  - CPU: M68040 microprocessor
  - Clock speed: 33 MHz
  - Memory: 81 Mb
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Body model:

- Model: Packard Bell 486
- Memory: 6,5 Mb RAM

Eye tracking:

- Model: IBM 386
- Memory: 3.7 Mb RAM

Gandalf graphics:

- Model: SGI Indigo2
- CPU: MIPS R4000 Revision 3.0
- Clock speed: 100MHz
- Memory: 64 MB RAM

Solar system graphics:

- Model: Hewlet Packard Apollo 9000 series 700 model 750 workstation
- CPU: PA-RISC processor with 66-MHz floating point co-processor
- Clock speed: 66 MHz
- Memory: 128 MB RAM

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## A2.2 *Software*

### A2.2.1 **Main Software**

- Intonation: 1,100
- Motor Scheduler: 1,600
- Knowledge Base: 2,600
- Perception & Action: 2,700
- Socket, data, miscellaneous: 4,000
- Multimodal Recorder: 1,700

*Total lines of LISP code: 13,700*

### A2.2.2 **Support software**

- Bodymodel: 5000
- Speech-recognition related: 400<sup>1</sup>

*Total lines of C code: 5,400*

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1. HARK [BBN 1993] not included.