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Chrono Trigger Database:

The database we created details the various aspects of the Chrono Trigger Universe. Chrono Trigger is a video game released for the SNES in 1995, and considered one of the greatest games of all time. It is the story of a group of young heroes who must travel through time to stop the apocalypse. The game is expansive as far as different locations throughout the different time periods. The battle system also allows for combining the abilities of different characters to create new abilities. All together this game provides a wealth of data that has yielded a very interesting database.

Outline:

One of the main tables in this database is the Character table. Being a role playing game, information concerning the playable characters is the most relevant. Characters perform Techs, and these two tables have a many to many relationship. Likewise, Characters utilize different Equipment for different purposes, and the relationship between these table is many to many. Multiple Characters can use Techs simultaneously which leads to a Combo Tech.

Another major feature of gameplay is the Quest. Quests traverse one or more Locations and each Location has a unique grouping of Enemy monsters. Some of these monsters are stronger and more aggressive than others and become the Boss of that particular Quest. So it's Characters and Quests that link everything together to form the universe of Chrono Trigger.

ER Diagram:
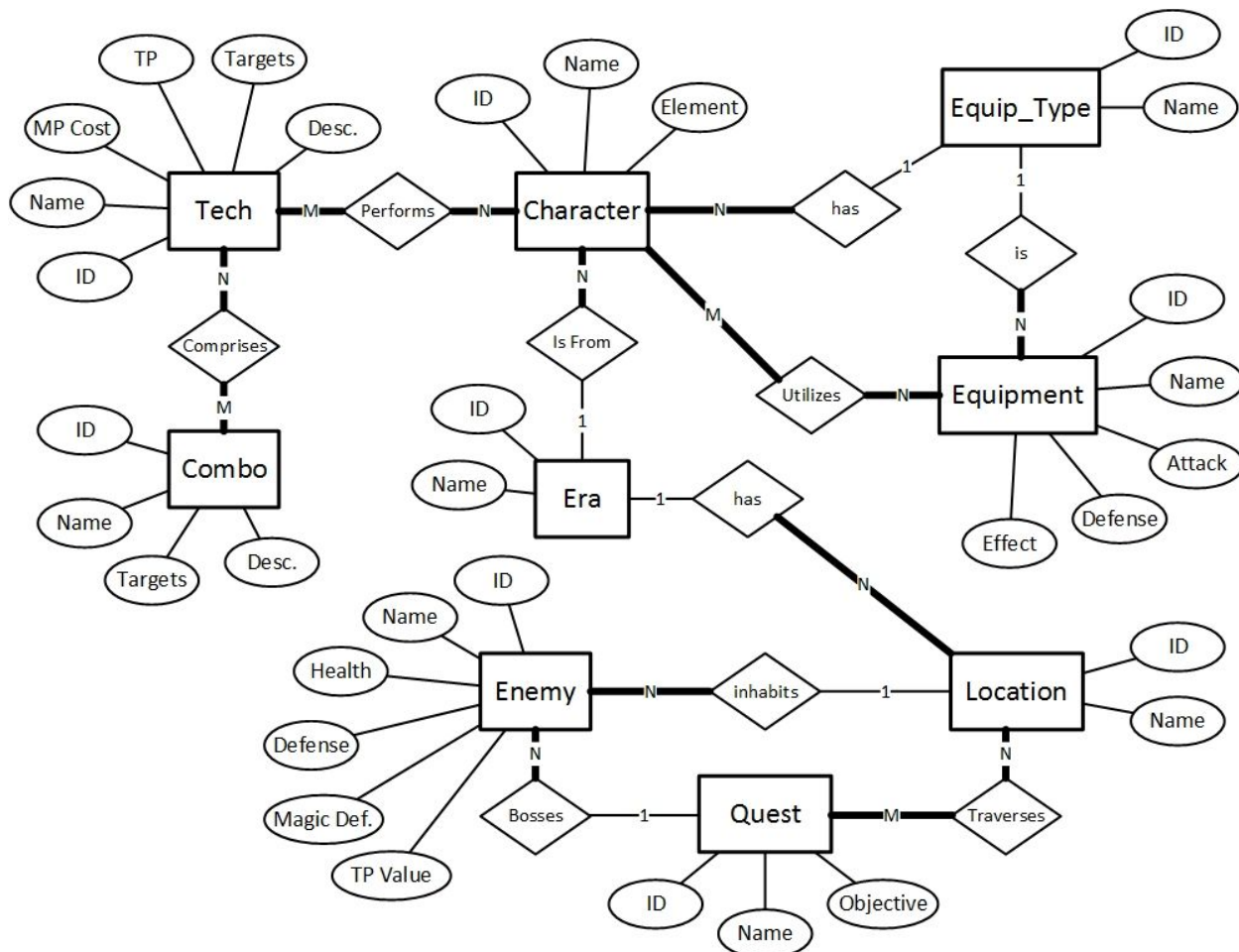
Schema:
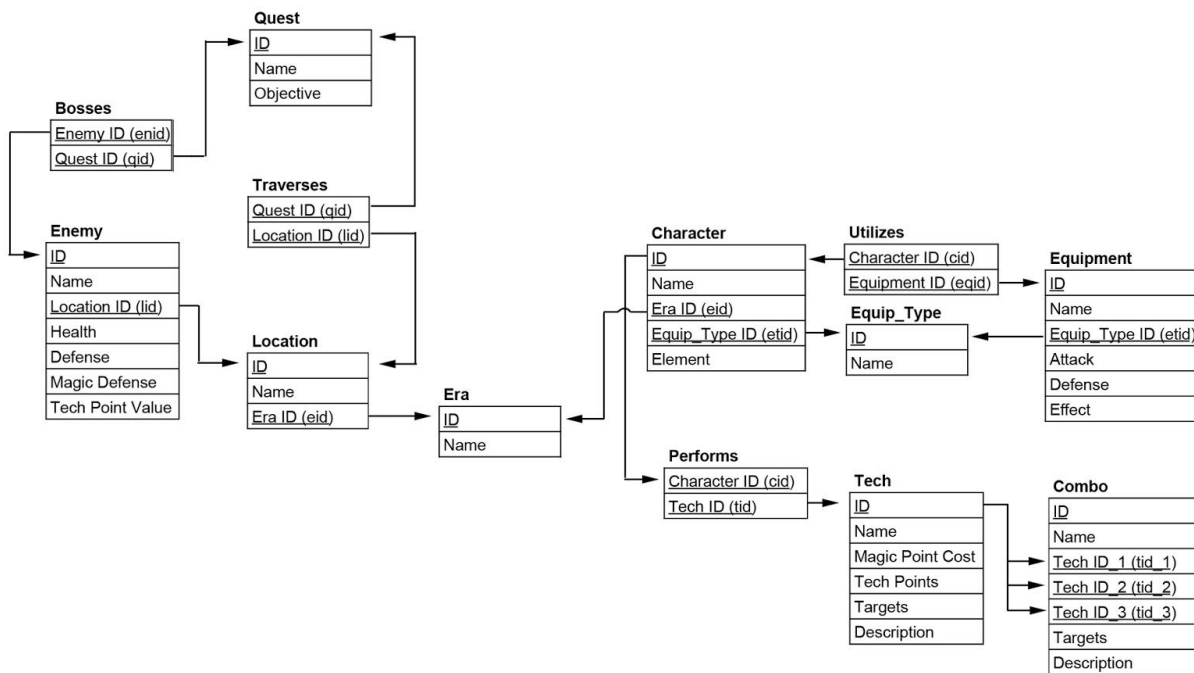
Table Creation Queries:

```
-- Eras
CREATE TABLE `era` (
        `id` int(11) NOT NULL AUTO_INCREMENT,
        `name` varchar(255) NOT NULL,
        `year` varchar(255) DEFAULT NULL,
        PRIMARY KEY (`id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

-- Locations
CREATE TABLE `location` (
        `id` int(11) NOT NULL AUTO_INCREMENT,
        `name` varchar(255) NOT NULL,
        `eid` int(11) NOT NULL,
        PRIMARY KEY (`id`),
        KEY `eid` (`eid`),
        CONSTRAINT `location_ibfk_1` FOREIGN KEY (`eid`) REFERENCES `era` (`id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;
```

```sql
-- Quests
CREATE TABLE `quest` (
        `id` int(11) NOT NULL AUTO_INCREMENT,
        `name` varchar(255) NOT NULL,
        `objective` text,
        PRIMARY KEY (`id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

-- Equipment Types
CREATE TABLE `equip_type` (
        `id` int(11) NOT NULL AUTO_INCREMENT,
        `name` varchar(255) NOT NULL,
        PRIMARY KEY (`id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

-- Equipment
CREATE TABLE `equipment` (
        `id` int(11) NOT NULL AUTO_INCREMENT,
        `name` varchar(255) NOT NULL,
        `etid` int(11) NOT NULL,
        `attack` int(11) DEFAULT NULL,
        `defense` int(11) DEFAULT NULL,
        `effect` varchar(255) DEFAULT NULL,
        PRIMARY KEY (`id`),
        KEY `etid` (`etid`),
        CONSTRAINT `equipment_ibfk_1` FOREIGN KEY (`etid`) REFERENCES `equip_type` (`id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

-- Characters
CREATE TABLE `character` (
        `id` int(11) NOT NULL AUTO_INCREMENT,
        `name` varchar(255) NOT NULL,
        `eid` int(11) NOT NULL,
        `etid` int(11) NOT NULL,
        `element` varchar(255) NOT NULL,
        PRIMARY KEY (`id`),
        KEY `eid` (`eid`),
        KEY `etid` (`etid`),
        CONSTRAINT `character_ibfk_1` FOREIGN KEY (`eid`) REFERENCES `era` (`id`),
        CONSTRAINT `character_ibfk_2` FOREIGN KEY (`etid`) REFERENCES `equip_type` (`id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;
```

```sql
-- Techniques
CREATE TABLE `tech` (
        `id` int(11) NOT NULL AUTO_INCREMENT,
        `name` varchar(255) NOT NULL,
        `magic_cost` int(11),
        `tech_points` int(11),
        `targets` varchar(255),
        `description` text,
        PRIMARY KEY (`id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

-- Combination Techniques
CREATE TABLE `combo` (
        `id` int(11) NOT NULL AUTO_INCREMENT,
        `name` varchar(255) NOT NULL,
        `tid_1` int(11) NOT NULL,
        `tid_2` int(11) NOT NULL,
        `tid_3` int(11) DEFAULT NULL,
        `targets` varchar(255) DEFAULT NULL,
        `description` text,
        PRIMARY KEY (`id`),
        KEY `tid_1` (`tid_1`),
        KEY `tid_2` (`tid_2`),
        KEY `tid_3` (`tid_3`),
        CONSTRAINT `combo_ibfk_1` FOREIGN KEY (`tid_1`) REFERENCES `tech` (`id`),
        CONSTRAINT `combo_ibfk_2` FOREIGN KEY (`tid_2`) REFERENCES `tech` (`id`),
        CONSTRAINT `combo_ibfk_3` FOREIGN KEY (`tid_3`) REFERENCES `tech` (`id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

-- Enemies and Bosses
CREATE TABLE `enemy` (
        `id` int(11) NOT NULL AUTO_INCREMENT,
        `name` varchar(255) NOT NULL,
        `lid` int(11) NOT NULL,
        `health` int(11) DEFAULT NULL,
        `defense` int(11) DEFAULT NULL,
        `magic_defense` int(11) DEFAULT NULL,
        `tech_value` int(11) DEFAULT NULL,
        PRIMARY KEY (`id`),
        KEY `lid` (`lid`),
        CONSTRAINT `enemy_ibfk_1` FOREIGN KEY (`lid`) REFERENCES `location` (`id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;
```

```sql
-- Quests Traverse Locations
CREATE TABLE `traverses` (
        `qid` int(11) NOT NULL DEFAULT '0',
        `lid` int(11) NOT NULL DEFAULT '0',
        PRIMARY KEY (`qid`,`lid`),
        KEY `lid` (`lid`),
        CONSTRAINT `traverses_ibfk_1` FOREIGN KEY (`qid`) REFERENCES `quest` (`id`),
        CONSTRAINT `traverses_ibfk_2` FOREIGN KEY (`lid`) REFERENCES `location` (`id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

-- Characters Utilize Equipment
CREATE TABLE `utilizes` (
        `cid` int(11) NOT NULL DEFAULT '0',
        `eqid` int(11) NOT NULL DEFAULT '0',
        PRIMARY KEY (`cid`,`eqid`),
        KEY `eqid` (`eqid`),
        CONSTRAINT `utilizes_ibfk_1` FOREIGN KEY (`cid`) REFERENCES `character` (`id`),
        CONSTRAINT `utilizes_ibfk_2` FOREIGN KEY (`eqid`) REFERENCES `equipment` (`id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

-- Characters Perform Techniques
CREATE TABLE `performs` (
        `cid` int(11) NOT NULL DEFAULT '0',
        `tid` int(11) NOT NULL DEFAULT '0',
        PRIMARY KEY (`cid`,`tid`),
        KEY `tid` (`tid`),
        CONSTRAINT `performs_ibfk_1` FOREIGN KEY (`cid`) REFERENCES `character` (`id`),
        CONSTRAINT `performs_ibfk_2` FOREIGN KEY (`tid`) REFERENCES `tech` (`id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

-- Enemies Boss Quests
CREATE TABLE `bosses` (
        `enid` int(11) NOT NULL DEFAULT '0',
        `qid` int(11) NOT NULL DEFAULT '0',
        PRIMARY KEY (`enid`,`qid`),
        KEY `qid` (`qid`),
        CONSTRAINT `bosses_ibfk_1` FOREIGN KEY (`enid`) REFERENCES `enemy` (`id`),
        CONSTRAINT `bosses_ibfk_2` FOREIGN KEY (`qid`) REFERENCES `quest` (`id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;
```

General Use Queries:

```sql
-- View Characters
SELECT character.name, era.name, equip_type.name, character.element FROM `character`
INNER JOIN era ON era.id = character.eid
INNER JOIN equip_type ON equip_type.id = character.etid;
```

```sql
-- Add a Character
INSERT INTO `character`(name, eid, etid, element)
VALUES ([typed name],[selected era],[selected equip_type],[selected element]);

-- View Techs and Combos by Character
SELECT tech.name, magic_cost, targets, description FROM `tech`
INNER JOIN performs ON performs.tid = tech.id
INNER JOIN `character` ON character.id = performs.cid
WHERE character.id = [current character] UNION
SELECT combo.name, tech.magic_cost, tech.targets, combo.description FROM combo
INNER JOIN tech ON tech.id = combo.tid_1 OR tech.id = combo.tid_2 OR tech.id = combo.tid_3
INNER JOIN performs ON performs.tid = tech.id
INNER JOIN `character` ON character.id = performs.cid
WHERE character.id = [current character];

-- Add a Tech by Character
INSERT INTO tech(name, magic_cost, targets, description)
VALUES ([typed name],[number input],[number input],[typed description]);
INSERT INTO performs(cid, tid)
VALUES ([current character],[added tech]);

-- View Weapons by Character
SELECT equipment.name, equip_type.name, attack, effect FROM `equipment`
INNER JOIN equip_type ON equip_type.id = equipment.etid
INNER JOIN utilizes ON utilizes.eqid = equipment.id
INNER JOIN `character` ON character.id = utilizes.cid
WHERE character.id = [current character] AND equipment.attack != 0;

-- View Armor and Headgear by Character
SELECT equipment.name, equip_type.name, defense, effect FROM `equipment`
INNER JOIN equip_type ON equip_type.id = equipment.etid
INNER JOIN utilizes ON utilizes.eqid = equipment.id
INNER JOIN `character` ON character.id = utilizes.cid
WHERE character.id = ? AND equipment.defense != 0;

-- View Accessories by Character
SELECT equipment.name, effect FROM `equipment`
INNER JOIN equip_type ON equip_type.id = equipment.etid
INNER JOIN utilizes ON utilizes.eqid = equipment.id
INNER JOIN `character` ON character.id = utilizes.cid
WHERE character.id = ? AND equip_type.name = 'accessory';

-- Add a piece of Equipment
INSERT INTO equipment (name, etid, attack, defense, effect)
VALUES ([typed name],[selected equip_type],[number input],[number input],[typed effect]);
```

```sql
-- Quest Dropdown
SELECT id, name FROM `quest`;

-- View Locations by Quest
SELECT location.id, location.name FROM location
INNER JOIN traverses ON traverses.lid = location.id
INNER JOIN quest ON quest.id = traverses.qid
WHERE quest.id = [current quest];

-- View Enemies by Locations
SELECT enemy.name, health, defense, magic_defense FROM enemy
INNER JOIN location ON location.id = enemy.lid
WHERE location.id = [current location];

-- View Boss by Quest
SELECT enemy.name, health, defense, magic_defense FROM enemy
INNER JOIN bosses ON bosses.enid = enemy.id
INNER JOIN quest ON quest.id = bosses.qid
WHERE quest.id = [current quest];

-- View Enemies
SELECT name, lid, health, defense, magic_defense, tech_value FROM enemy

-- View Locations
SELECT name, eid FROM location

-- Add Enemy
INSERT INTO enemy(name, lid, health, defense, magic_defense, tech_value)
VALUES ([typed name],[typed number] ,[typed number] ,[typed number] ,[typed number] ,[typed number] )

-- Add Location
INSERT INTO location(name, eid) VALUES ([typed name],[typed number] )

-- Delete Enemy
DELETE from enemy WHERE name=[typed name]

-- Delete Location
DELETE from location WHERE name=[typed name]

-- Update Enemy
UPDATE enemy SET lid=[typed number], health=[typed number], defense=[typed number],
magic_defense=[typed number], tech_value=[typed number] WHERE name=[typed name]

-- Update Location
UPDATE location SET eid=[typed number]  WHERE name=[typed name]
```