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Diet planning for people with diabetes

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Diabetes: Key facts

- Illness (condition) which can **not** be cured
- But **can** be treated well
- The treatment's three component:
 1. Diet
 2. Exercise
 3. Medication
- Types of diabetes
 1. Insulin dependent (cca. 5-15% of diabetes)
 2. Insulin in-dependent

Diabetes: Key facts II.

Diabetes can have serious implications which we want to avoid



Control blood glucose level
• Diet, Exercise, Medication



Long and healthy life

Why diet is important?

- First tool to **control blood glucose level**
- Have to match the amount of **insulin** to the amount of **carbohydrates eaten**
- Have to match the **physical activity** to the amount of **energy taken** (not to overweight)
- Everybody needs a **well balanced** and varied **diet** for long health

What Diet is?

Diet: When, what and how much to eat!

- *When*: based on the daily routine of the patient, discussed with health care team
- *What*: based on the taste and habit of the person, personal decision
- *How much*: how much carbohydrates and energy needed for the person, decision with the healthcare team

Diet outline

- Number of meals a day
- Amounts for each meal of
 - Energy
 - Carbohydrates
 - (Fat, Protein, Fibre)

Diet as an equality system

- Right side: *Diet outline*
 - Desired amount of carbohydrates and energy
- Left side: *Daily diet plan*
 - The user decide what to eat -> *coefficients*
 - The proper ratio of ingredients -> *unknowns*
- The software helps to **sort out the unknowns**

Calculator approach

- This tool is a well specialized **calculator** with built in knowledge about foods
- Each task can be done in mind with proper knowledge and practice **without** this project
- **But** each task should be **learnable in a hassle-free way**, this is my aim with this project

Calculator approach II.

The screenshot shows a web-based diet calculator interface. At the top right, the date is 2009.01.14. The interface is divided into two main sections: 'Breakfast' and 'Lunch'. Each section has a table with columns for 'kcal', 'protein', 'fat', 'carboh', 'fibre', and 'amount'. The 'amount' column is in grams (g). Below each table is a 'Sum of' row with colored cells (red for kcal, protein, fat; green for carboh; pink for fibre). The 'Breakfast' section has a 'Sum of Breakfast' row, and the 'Lunch' section has a 'Sum of Lunch' row.

Example

- **Potato (in raw) conatins**
 - Carbohydrates: 20 g / 100 g
 - Energy: 88 kcal / 100 g
 - Protein: 2.5 g / 100 g
 - Fat: 0.2 g / 100 g
 - Fibre: 0.5 g / 100 g

Database

- Database contains the basic foods from datasheets
- Database will be expandable by users and available for sharing

Technical stuff

- Platform: **Hosted web application**
- Presentation framework: **XHTML+CSS, JS**
- Programming language: **PHP**
- Backend database: **MySQL**

Extras

- Social networking, share:
 - Experiences (forum)
 - Planned meals (menu for others reference)
 - Diet outline (for hosts who wants to invite you)
- Future (possible) developments
 - Optimizing for
 - mobile phones
 - integrated kitchen systems

Summary

- Diabetes is a problem for today society
- Diet is a key factor in diabetes treatment
- A hassle-free tool needed for new patients
- The proper experience and knowledge can be built up through a handy tool
- Topic-based social networking can help solving problems of people with special needs

Thank you for your attention

Any questions?

Project web site:
<http://dev.progterv.info/diatfood>