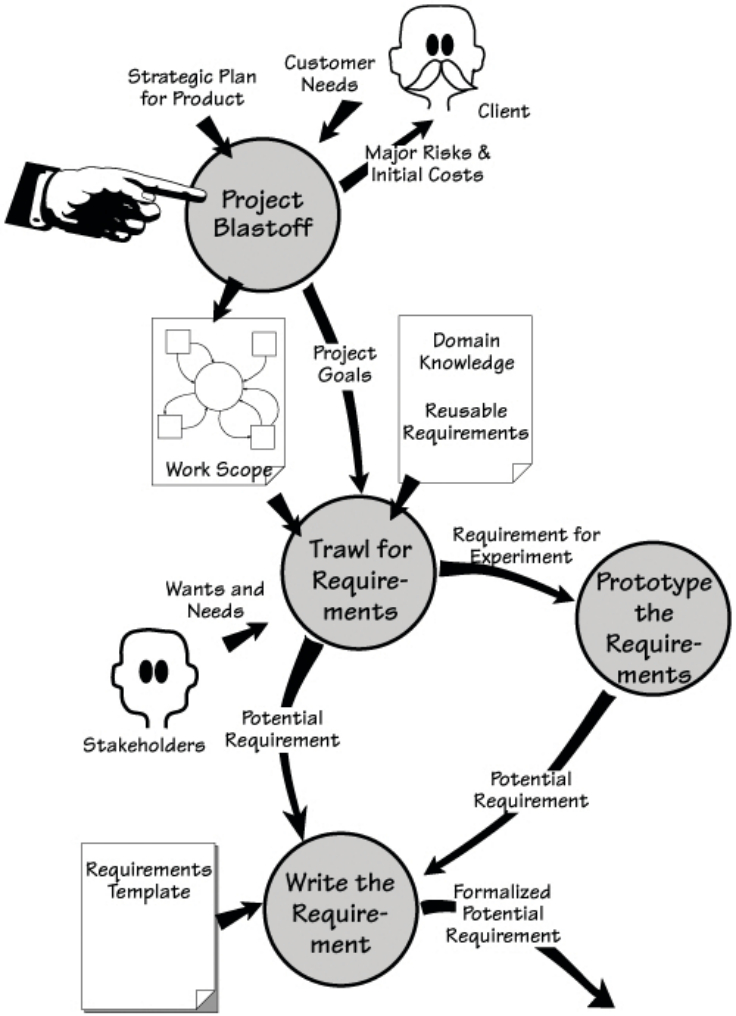
SENG 321

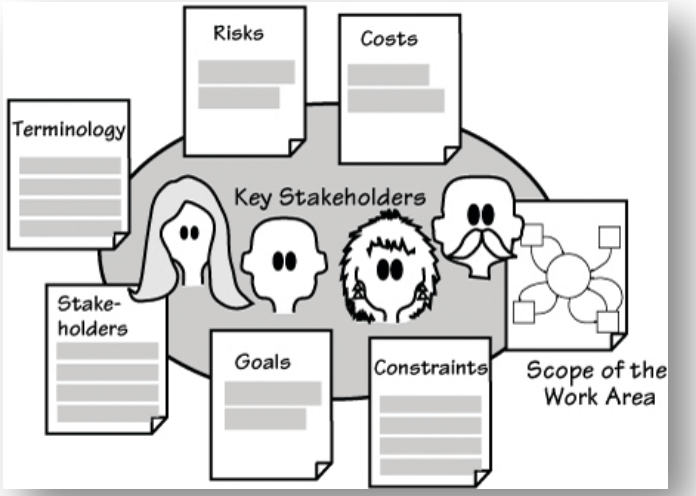
"Project Blastoff" (or discovering Domains)

Identifying the work, purpose, stakeholders

- Success in this part of the RE process depends upon:
  - Identifying the **work area** of which the **product** will become part
  - Determining the **purpose the product** is to fulfill
  - Identify the **stakeholders**
  - Qualifying the project with **information used as inputs for other parts of the RE**
- This is called the Project Blastoff
  - Also: Project Kickoff, Project Initiation, Project Launch
  - Ultimately: **lays groundwork** to ensure requirements activity is efficient and effective

Project Blastoff





Figures 3.1 & 3.2 from "MtRP" (© 2006 Pearson Education)

Project Blastoff: Deliverables

- One way of defining a stage in an RE process is to list its **deliverables**
- Several exist for PB
  1. Purpose of project
  2. **Scope of work**
  3. **The stakeholders**
  4. **Constraints**
  5. **Names**
  6. **Relevant facts and assumptions**
  7. Estimated cost
  8. The risks
  9. A first-cut low-fidelity prototype
  10. Go / no-go decision

SENG 321: Reality Check

- The full "Project Blastoff" phase is not part of the course project
  - Purpose of work: created by customer group via role-playing
  - Scope of work: also role-played
  - Stakeholders: customer group
  - Go/no go decision: already a "go"
- Simulating the full PB phase only make sense if customer is a real customer
  - i.e., if supplier groups working with client/customer in the community
  - assumption here is students in supplier group do not know much about the client's work
- However, still important for us to know about this phase

1. Purpose of project

- Focus here is on the **business**
- Recall:
  - "Business" may also refer to the institutional mandate of the organization (and not necessarily for profit)
  - Hospitals: deliver health-care services
  - Post-secondary institutions: deliver certificate-, diploma-, and degree-based programs
- **Purpose** is a **short statement**:
  - Quantified statement of what product is intended to do
  - Also of the advantage brought to the business
  - Explains why the business is choosing to invest in the project and the rewards expected
  - Helps justify the project (and therefore ensures stakeholders commit to the RE)

2. Scope of work

- In many ways, activities to discover **scope**, **goals** and **stakeholders** are inter-related
  - As **project scope** becomes more defined, outside organizations may be identified…
  - … and **individuals or groups** in these outside organizations could correspond to **possible stakeholders** …
  - … whose **interests** can yield **goals** for the system.
- Ultimately this part of Project Blastoff is iterative
  - Ideal to have as many stakeholder representatives present as is possible…
  - … yet in practical terms we may need to compromise.
  - Easier to have these conversations in person with as many stakeholders as is practicable (wee catch-22).

2. Scope of work

- Note: We are referring to the scope **of the work**
  - This is not the scope **of the project** (i.e., not about how big the solution system will be!)
- **The Work**:
  - Definition: The business activity for which the user needs the product.
  - The work usually already exists…
  - … yet it is possible that it does not yet exist and will only exist after the project is finished.
- In practical terms:
  - We **set the scope** by dividing **the work we are about the study** from **the work that surrounds it**.
  - That is: we recognize every piece of work we study as it is connected to other pieces of work.

2. Scope of work

- Another way of stating this:
  - We are concerned with what is **inside the work** and **requires study**
  - We need to know about what is **outside the work** and **does not require study**
  - We need to know about **flows of information** between entities **inside** and **outside** the work
  - Another term for systems we do not need to study (but need to know about): **adjacent systems**
- Study of adjacent systems is limited to **understanding the details of connections** to such systems.

2. Scope of work

- Deciding what is inside and what is outside requires some judgment and discernment
- One way of doing this is to identify **domains of interest**
  - **Domain**: a subject-matter area
  - **Of interest**: a subject area for which we need to know something in order to understand the work
- Domains can be very large
  - Goal here is **not** to study everything associated with domains of interest…
  - … but rather to **determine the scope of the work**.
  - One technique for helping with this decision: **context diagrams**

2. Scope of work

- Consider the following problem:

Roads freeze in winter, and icy conditions cause road accidents that kill people. We need to be able to predict when ice will form on a road so we can schedule a de-icing truck to treat the road in time. We expect a new system to provide more accurate predictions of icy conditions. This will lead to more timely de-icing treatment than at present, which will reduce road accidents. We also want to eliminate indiscriminate treatment of roads, which wastes de-icing compounds and causes environmental damage.

2. Scope of work

- A variety of **subjects** suggest themselves…

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2. Scope of work

- Four **domains** come out of the **subjects**

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Roads

Weather

Scheduling

Trucking

2. Scope of work

- Given a domain:
  - Are there **physical entities** that somehow represent the domain?
  - Are some of the entities **close enough to the problem** to be **useful for study**?
- Example: Physical entities representing the **weather** domain
  - **Wind, rain, clouds**: Yes, but a bit too far removed
  - **Weather forecasting services**: More applicable
  - **Weather stations**: Up-to-the-minute data (but expensive to provision and maintain in large numbers)
  - **Thermal map suppliers**: Data for interpolating between weather-station datapoints

2. Scope of work

- Note that some of the physical entities could be an **adjacent system**
  - Making this decision depends upon the result of preliminary study of the domains
  - **Weather forecasting services**: Can be bought (and therefore connections to it should be studied)
  - **Weather stations**, **Thermal map suppliers**: Company will have no interest in maintaining these (hence these are adjacent).
- Another way of thinking about adjacent systems:
  - "There is no interest in altering – or we are unable to alter – these systems in any way."

2. Scope of work

- What about domains that are not external?
- Example: Entities representing the **scheduling** domain
  - Here entities are not physical, but rather are policies the work has to adopt.
- Possible policies:
  - Rules for scheduling
  - Optimizing truck usage
  - Manipulating a fleet of vehicles
- These are **part of the work**…
  - … and therefore will **not appear** as adjacent systems

2. Scope of work

- Context diagram:
  - A model of the work in its context (i.e., connections to adjacent systems)
- Shows where:
  - responsibilities of the work **start**…
  - … and responsibilities of adjacent systems **end**
- Remember:
  - We are **focusing on the problem domain** during this part of the RE process
  - When creating context diagrams, important that the work **not converge right away to a solution system**

Context Diagram

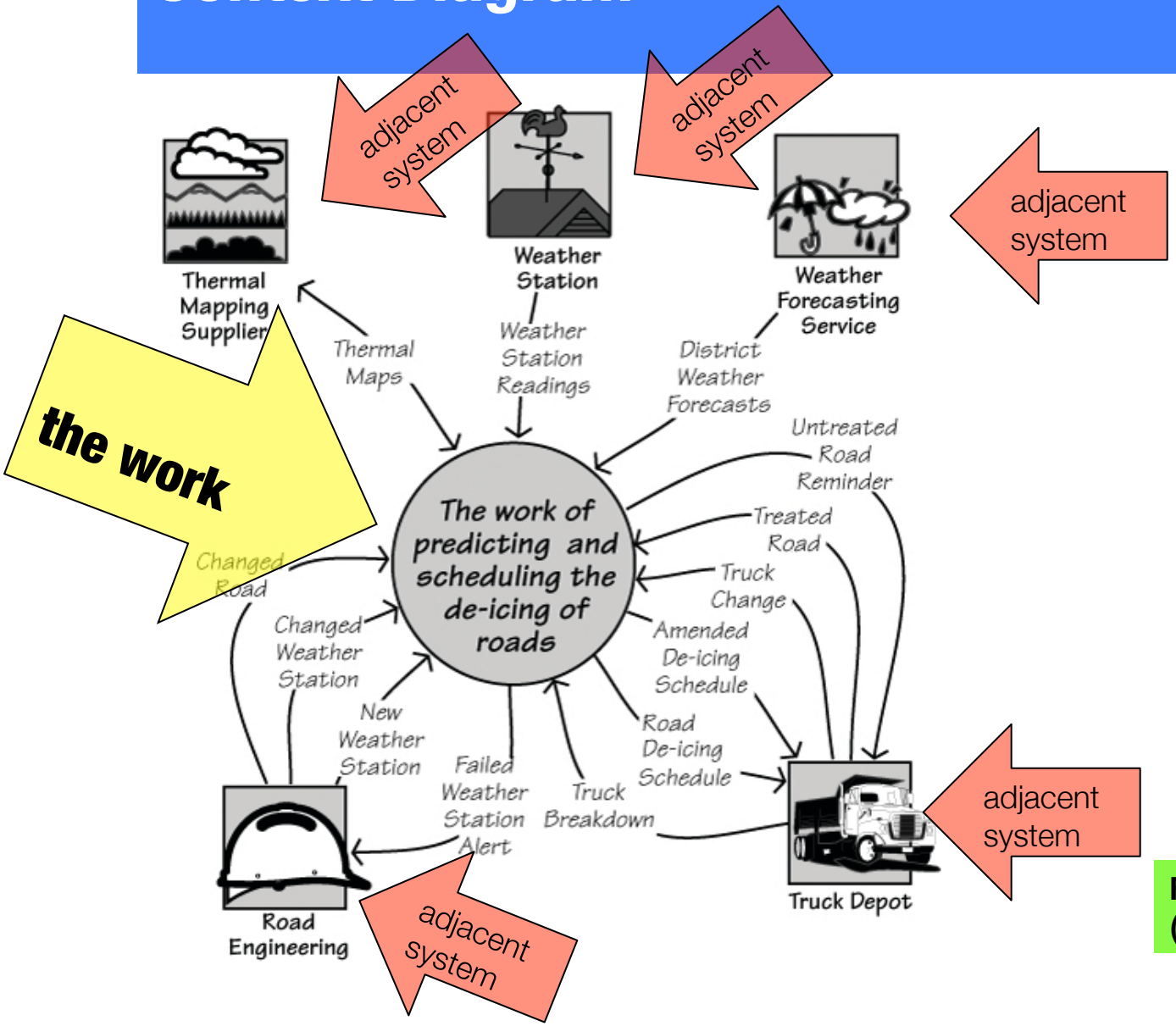

Figure 3.5 from "MtRP"
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2. Scope of work

- What of this problem?

You are engaged to write a software system for one of the first “museums of computing” in Canada, and hundreds of tourists visit your site every week. The museum displays are many and varied (e.g., “mainframes”, “mini computers”, “the age of punch cards”, “computers and air travel”, “Hello Nintendo!”, etc.) The museum wants to improve the experience of visitors by introducing a set of interactive kiosks sprinkled throughout the museum floor. The IT system needed would help with the development, maintenance, and operation of such displays.